

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **CRRMH-DO-BAY** Corrotoman River Mesohaline

Location: The tidal Corrotoman and its tidal tributaries (CRRMH).

City / County: Lancaster Co.

Use(s): Aquatic Life Open-Water Aquatic Life

Cause(s) /

VA Category: Oxygen, Dissolved / 5A

The mainstem Corrotoman River was included in EPA's 1998 Overlist. The new Chesapeake Bay water quality standards were implemented during the 2006 cycle.

The new Chesapeake Bay Water Quality Standards were implemented during the 2006 cycle. In the 2008 cycle, the mesohaline Corrotoman River estuary failed the Open Water Subuse's summer 30-day dissolved oxygen criteria. The Open Water Subuse's 30-day rest-of-year standard was met and there was insufficient data to assess the other dissolved oxygen criteria. The TMDL is due in 2010.

Corrotoman River Mesohaline	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Oxygen, Dissolved - Total Impaired Size by Water Type:	<b>9.200</b>		

Corrotoman River Mesohaline	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Open-Water Aquatic Life</b>			
Oxygen, Dissolved - Total Impaired Size by Water Type:	<b>9.200</b>		

Sources:

Agriculture	Atmospheric Deposition - Nitrogen	Industrial Point Source Discharge	Internal Nutrient Recycling
Loss of Riparian Habitat	Municipal Point Source Discharges	Sources Outside State Jurisdiction or Borders	Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)

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## Rappahannock River Basin

Cause Group Code **CRRMH-SAV-BAY** **Corrotoman River Mesohaline**

Location: The tidal Corrotoman and its tidal tributaries (CRRMH).

City / County: Lancaster Co.

Use(s): Aquatic Life                      Shallow-Water Submerged  
   Aquatic Vegetation

Cause(s) /

VA Category: Aquatic Plants (Macrophytes) / 5A

The mainstem Corrotoman River was included in EPA's 1998 Overlist. The new Chesapeake Bay water quality standards were implemented during the 2006 cycle.

The new Chesapeake Bay Water Quality Standards were implemented during the 2006 cycle. The mesohaline portion of the Corrotoman River failed the Shallow Water Subuse's submerged aquatic vegetation acreage standards during the 2008 cycle.

Corrotoman River Mesohaline	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Aquatic Plants (Macrophytes) - Total Impaired Size by Water Type:	<b>9.200</b>		

Corrotoman River Mesohaline	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Shallow-Water Submerged Aquatic Vegetation</b>			
Aquatic Plants (Macrophytes) - Total Impaired Size by Water Type:	<b>9.200</b>		

Sources:

Agriculture	Atmospheric Deposition - Nitrogen	Clean Sediments	Industrial Point Source Discharge
Internal Nutrient Recycling	Loss of Riparian Habitat	Municipal Point Source Discharges	Sediment Resuspension (Clean Sediment)
Sources Outside State Jurisdiction or Borders	Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)		

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## Rappahannock River Basin

Cause Group Code **E01R-01-BAC**      **Thumb Run**

Location: Begins at the confluence of West Branch Thumb Run and East Branch Thumb Run and continues downstream until the confluence with the Rappahannock River.

City / County: Fauquier Co.

Use(s): Recreation

Cause(s) /  
VA Category: Fecal Coliform / 4A

Fecal coliform bacteria excursions (2 of 13 samples - 15.4%) from station 3-THU004.69, at Route 688 (Leeds Manor Road).

Thumb Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Fecal Coliform - Total Impaired Size by Water Type:			<b>6.87</b>

### Sources:

Grazing in Riparian or Shoreline Zones	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland	Sewage Discharges in Unsewered Areas
Waterfowl	Wildlife Other than Waterfowl		

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## Rappahannock River Basin

Cause Group Code **E01R-02-BAC**      **Thumb Run, West Branch**

Location: Begins at the headwaters of West Branch Thumb Run and continues downstream until the confluence of West Branch to the mainstem Thumb Run.

City / County: Fauquier Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (3 of 4 samples - 75.0%) from station 3-THW004.68, at Route 635.

Thumb Run, West Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>10.08</b>

Sources:

Source Unknown

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## Rappahannock River Basin

Cause Group Code **E01R-03-BAC**      **Rappahannock River**

Location: Begins at the confluence with the Jordan River, at rivermile 175.58, and continues downstream until the confluence with an unnamed tributary to the Rappahannock River, at rivermile 173.41.

City / County: Fauquier Co.      Rappahannock Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (6 of 19 samples - 31.6%) from station 3-RPP175.51, at Route 647.

Rappahannock River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>2.16</b>

Sources:

Source Unknown

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## Rappahannock River Basin

Cause Group Code **E01R-04-BAC**      **Thumb Run, East Branch**

Location: Begins at the headwaters of East Branch Thumb Run and continues downstream until the confluence of East Branch to the mainstem Thumb Run.

City / County: Fauquier Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (3 of 4 samples - 75.0%) from station 3-THM001.40, at Route 635.

Thumb Run, East Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>5.88</b>

Sources:

Source Unknown

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## Rappahannock River Basin

Cause Group Code **E02R-01-BAC**      **Carter Run**

Location: Begins at the confluence with Horner Run and continues downstream until the confluence with the Rappahannock River.

City / County: Fauquier Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 4A

Escherichia coli / 5A

E. coli bacteria criterion excursions (11 of 27 samples - 40.7%) from station 3-CAE000.25, at Route 688, and E. coli bacteria criterion excursions (5 of 16 samples - 31.2%) from station 3-CAE006.32, at Route 738.

Carter Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			11.74

Sources:

Grazing in Riparian or Shoreline Zones	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland	Sewage Discharges in Unsewered Areas
Source Unknown	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

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## Rappahannock River Basin

Cause Group Code **E02R-02-BAC**      **Great Run**

Location: Begins at the headwaters of Great Run and continues downstream until the confluence with the Rappahannock River.

City / County: Fauquier Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (7 of 27 samples - 25.9%) from station 3-GRT001.70, at Route 687, and E. coli bacteria criterion excursions (14 of 27 samples - 51.8%) from station 3-GRT007.72, at Route 802.

Great Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>15.63</b>

Sources:

Grazing in Riparian or Shoreline Zones	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland	Sewage Discharges in Unsewered Areas
Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl	



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## Rappahannock River Basin

Cause Group Code **E02R-03-BAC**      **Rappahannock River**

Location: Begins at the confluence with Great Run, at rivermile 154.9, and continues downstream until the confluence with the Hazel River, at rivermile 147.52.

City / County: Culpeper Co.      Fauquier Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (6 of 16 samples - 37.5%) from station 3-RPP150.32, at Route 621.

Rappahannock River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>6.81</b>

Sources:

Source Unknown

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## Rappahannock River Basin

Cause Group Code **E02R-04-BAC**      **Barrows Run**

Location: Begins at the headwaters of Barrows Run and continues downstream until the confluence with the Rappahannock River.

City / County: Fauquier Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (5 of 9 samples - 55.6%) from station 3-BRW000.29, at Spring Drive.

Barrows Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>4.85</b>

Sources:

Source Unknown

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## Rappahannock River Basin

Cause Group Code **E02R-05-BAC**      **South Run**

Location: Begins at the confluence with Tanner Branch and continues downstream until the confluence with Carter Run.

City / County: Fauquier Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (8 of 25 samples - 32.0%) from station 3-SUT002.62, at Route 737.

South Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>3.91</b>

Sources:

Source Unknown

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## Rappahannock River Basin

Cause Group Code **E02R-06-BAC**      **Carter Run**

Location: Begins at the confluence with Strothers Branch and continues downstream until the confluence with an unnamed tributary to Carter Run, at rivermile 14.71.

City / County: Fauquier Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (5 of 12 samples - 41.7%) from station 3-CAE015.01, at a private road off of Route 719.

Carter Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>1.53</b>

Sources:

Source Unknown

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## Rappahannock River Basin

Cause Group Code **E03R-01-BAC**      **Hughes River**

Location: Begins at the confluence with Kilbys Creek and continues downstream until the confluence with the Hazel River.

City / County: Culpeper Co.      Rappahannock Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (6 of 17 samples - 35.3%) from station 3-HUE000.20, at Route 644.

Hughes River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>3.67</b>

Sources:

Source Unknown

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## Rappahannock River Basin

Cause Group Code **E03R-01-TEMP**      **Hughes River**

Location: Begins at the upper crossing of Route 707 near the confluence of Rocky Run and continues downstream until the crossing of Route 231.

City / County: Madison Co.      Rappahannock Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Temperature, water / 5A

Instantaneous temperature criterion for stockable trout waters excursions (2 of 6 samples - 33.3%) from station 3-HUE007.31, at the lower crossing of Route 707.

Hughes River	Estuary	Reservoir	River
<b>Aquatic Life</b>	(Sq. Miles)	(Acres)	(Miles)
Temperature, water - Total Impaired Size by Water Type:			<b>3.11</b>

Sources:

Source Unknown

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## Rappahannock River Basin

Cause Group Code **E04R-01-BAC**      **Hazel River**

Location: Begins at the Route 707 bridge crossing and continues downstream until the confluence with an unnamed tributary to the Hazel River, at rivermile 16.03.

City / County: Culpeper Co.      Rappahannock Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 5A      Fecal Coliform / 5A

E. coli bacteria criterion excursions (4 of 15 samples - 26.7%) at station 3-HAZ018.29, at Route 729, E. coli bacteria criterion excursions (5 of 11 samples - 45.4%) from station 3-HAZ026.16, at Route 522. 2006 Assessment: Fecal coliform bacteria criterion excursions (3 of 14 samples - 21.4%) from station 3-HAZ032.54, at Route 644.

Hazel River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			15.43
Hazel River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			0.80

Sources:

Source Unknown

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## Rappahannock River Basin

Cause Group Code **E05R-01-BAC** Rush River

Location: Begins at the confluence with Big Devils Stairs, at rivermile 10.2, and continues downstream until the confluence with Big Branch, approximately 0.98 rivermile upstream of Route 621.

City / County: Rappahannock Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (5 of 14 samples - 35.7%) from station 3-RUS005.66, at Route 683.

Rush River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			5.87

Sources:

Source Unknown



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## Rappahannock River Basin

Cause Group Code **E05R-02-BAC** Thornton River

Location: Begins at the confluence with White Walnut Run, approximately 0.8 rivermile downstream of Route 621, and continues downstream to the confluence with the Rush River.

City / County: Rappahannock Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (2 of 13 samples - 15.4%) from station 3-THO014.37, at Route 626.

Thornton River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>3.37</b>

Sources:

Source Unknown

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## Rappahannock River Basin

Cause Group Code **E06R-01-BAC** Thornton River

Location: Begins at the confluence with Mill Run, at rivermile 8.65, and continues downstream until the confluence with an unnamed tributary to the Thornton River, at rivermile 3.25.

City / County: Culpeper Co. Rappahannock Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (3 of 13 samples - 23.1%) from station 3-THO006.50, at Route 729.

Thornton River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>5.40</b>

Sources:

Source Unknown

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## Rappahannock River Basin

Cause Group Code **E06R-02-BAC**      **Battle Run**

Location: Begins at the confluence with an unnamed tributary to Battle Run, at rivermile 2.27, and continues downstream until the confluence with the Thornton River.

City / County: Rappahannock Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (2 of 6 samples - 33.3%) from station 3-BTL000.94, at Route 729.

Battle Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>2.15</b>

Sources:

Source Unknown

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## Rappahannock River Basin

Cause Group Code **E07R-01-BAC**      **Muddy Run**

Location: Begins at the headwaters of Muddy Run and continues downstream until the confluence with the Hazel River.

City / County: Culpeper Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (7 of 16 samples - 43.8%) from station 3-MUU000.82, at Route 625, E. coli bacteria criterion excursions (8 of 17 samples - 47.0%) from station 3-MUU004.98, at Route 630, and E. coli bacteria criterion excursions (9 of 13 samples - 69.2%) from station 3-MUU008.52, at Route 632.

Muddy Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			12.60

Sources:

Grazing in Riparian or Shoreline Zones	Impacts from Land Application of Wastes	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland
Sewage Discharges in Unsewered Areas	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

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## Rappahannock River Basin

Cause Group Code **E07R-02-BAC**      **Hazel River**

Location: Begins at the confluence with Indian Run and continues downstream until the confluence with Muddy Run.

City / County: Culpeper Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (6 of 16 samples - 37.5%) from station 3-HAZ005.98, at Route 625.

Hazel River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>3.32</b>

Sources:

Source Unknown

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## Rappahannock River Basin

Cause Group Code **E07R-03-BAC** Indian Run

Location: Begins at the confluence with an unnamed tributary to Indian Run, upstream from Route 626, and continues downstream until the confluence with the Hazel River.

City / County: Culpeper Co.

Use(s): Recreation

Cause(s) /  
VA Category: Fecal Coliform / 5A

2006 Assessment: Fecal coliform bacteria criterion excursions (2 of 7 samples - 28.6%) from station 3-IND001.14, at Route 624.

Indian Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Fecal Coliform - Total Impaired Size by Water Type:			<b>3.82</b>

Sources:

Source Unknown

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## Rappahannock River Basin

Cause Group Code **E08R-01-BAC** Marsh Run

Location: Begins at the confluence with Harpers Run, at approximately rivermile 2.4, and continues downstream until the confluence with the Rappahannock River.

City / County: Fauquier Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (3 of 22 samples - 13.6%) from station 3-MAH000.19, at Route 651.

Marsh Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			2.24

Sources:

Source Unknown

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## Rappahannock River Basin

Cause Group Code **E08R-02-BAC**      **Browns Run**

Location: Begins at the confluence with an unnamed tributary to Browns Run, near the Route 17 bridge, and continues downstream until the confluence with Marsh Run.

City / County: Fauquier Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (4 of 12 samples - 33.3%) from station 3-BOS000.72, at Route 653 (Morganburg Road).

Browns Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>2.38</b>

Sources:

Source Unknown



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## Rappahannock River Basin

Cause Group Code **E08R-02-DO**      **Browns Run**

Location: Begins at the confluence with an unnamed tributary to Browns Run, near the Route 17 bridge, and continues downstream until the confluence with Marsh Run.

City / County: Fauquier Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Oxygen, Dissolved / 5A

Excursions below the instantaneous dissolved oxygen criterion (3 of 12 samples - 25.0%) from station 3-BOS000.72, at Route 653 (Morganburg Road).

Browns Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Oxygen, Dissolved - Total Impaired Size by Water Type:			<b>2.38</b>

Sources:

Source Unknown

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## Rappahannock River Basin

Cause Group Code **E08R-03-BAC**      **Craig Run**

Location: Begins at the headwaters of Craig Run and continues downstream until the confluence with Marsh Run.

City / County: Fauquier Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (4 of 11 samples - 36.4%) from station 3-CRA000.46, at Route 656 (Luck Stone Road).

Craig Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>3.62</b>

Sources:

Source Unknown

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## Rappahannock River Basin

Cause Group Code **E08R-04-BAC**      **Rappahannock River**

Location: Begins at the confluence with Ruffans Run and continues downstream until the confluence with Tinpot Run.

City / County: Culpeper Co.      Fauquier Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (7 of 36 samples - 19.4%) from station 3-RPP147.10, at Route 15/29.

Rappahannock River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>2.02</b>

Sources:

Source Unknown

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## Rappahannock River Basin

Cause Group Code **E08R-05-BAC**      **Rappahannock River**

Location: Begins at the confluence with an unnamed tributary to the Rappahannock River, at approximately rivermile 142.5, and continues downstream until the confluence with Marsh Run.

City / County: Culpeper Co.      Fauquier Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (4 of 22 samples - 18.2%) from station 3-RPP142.36, at Route 620.

Rappahannock River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>2.83</b>

Sources:

Source Unknown

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## Rappahannock River Basin

Cause Group Code **E08R-06-BAC** Tinpot Run

Location: Begins at the confluence with an unnamed tributary to Tinpot Run, at rivermile 1.27, and continues downstream until the confluence with the Rappahannock River.

City / County: Fauquier Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (6 of 10 samples - 60.0%) from station 3-TIN000.36, at Route 651 (Sumerduck Road).

Tinpot Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			1.24

Sources:

Source Unknown

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## Rappahannock River Basin

Cause Group Code **E08R-07-BAC** Marsh Run

Location: Begins at the headwaters of Marsh Run and continues downstream until the confluence with Craig Run.

City / County: Fauquier Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (2 of 8 samples - 25.0%) from station 3-MAH008.88, at Route 17.

Marsh Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>3.73</b>

Sources:

Source Unknown

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## Rappahannock River Basin

Cause Group Code **E09L-01-DO** Lake Pelham

Location: Includes all of Lake Pelham.

City / County: Culpeper Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: Oxygen, Dissolved / 5C

2006 Assessment: Excursions below the instantaneous dissolved oxygen criterion (8 of 25 samples - 32.0%) at station 3-MTN025.17.

Lake Pelham	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Oxygen, Dissolved - Total Impaired Size by Water Type:			<b>249.58</b>

### Sources:

- Natural Conditions - Water
- Quality Standards Use
- Attainability Analyses
- Needed

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## Rappahannock River Basin

Cause Group Code **E09L-01-PH** Lake Pelham

Location: Includes all of Lake Pelham.

City / County: Culpeper Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: pH / 5C

2006 Assessment: above the upper limit of the pH criterion range (5 of 25 samples - 20.0%) at station 3-MTN025.17.

Lake Pelham	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
pH - Total Impaired Size by Water Type:			<b>249.58</b>

### Sources:

- Natural Conditions - Water
- Quality Standards Use
- Attainability Analyses
- Needed



# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E09L-02-DO** Mountain Run Reservoir

Location: Includes all of Mountain Run Reservoir.

City / County: Culpeper Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: Oxygen, Dissolved / 5C

2006 Assessment: Excursions below the instantaneous dissolved oxygen criterion (10 of 32 samples - 31.2%) from station 3-MTN028.68.

Mountain Run Reservoir	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Oxygen, Dissolved - Total Impaired Size by Water Type:			<b>72.75</b>

Sources:

- Natural Conditions - Water
- Quality Standards Use
- Attainability Analyses
- Needed

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E09R-01-BAC** Mountain Run

Location: Begins at the confluence with Flat Run and continues downstream until the confluence with the Rappahannock River.

City / County: Culpeper Co. Spotsylvania Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 4A Escherichia coli / 5A

E. coli bacteria criterion excursions (6 of 16 samples - 37.5%) from station 3-MTN000.59, at Route 620.

Mountain Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			7.39

Sources:

Grazing in Riparian or Shoreline Zones	Impervious Surface/Parking Lot Runoff	Livestock (Grazing or Feeding Operations)	Manure Runoff
Runoff from Forest/Grassland/Parkland	Sewage Discharges in Unsewered Areas	Source Unknown	Waterfowl
Wildlife Other than Waterfowl			

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E09R-01-BEN**      **Mountain Run**

Location: Begins at the Route 15/29 bridge crossing and continues downstream until the confluence with the Rappahannock River.

City / County: Culpeper Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Two biological monitoring events in 2003 and one of two biological monitoring events in 2004 at station 3-MTN003.31 (downstream of Route 672) both resulted in a VSCI score which indicates an impaired macroinvertebrate community, as does the mean score of these four samples. Two biological monitoring events in 2006 at station 3-MTN018.83 (downstream of the Route 15/29 bypass) both resulted in a VSCI score which indicates an impaired macroinvertebrate community.

Mountain Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			<b>19.33</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E09R-01-PCB**      **Mountain Run**

Location: Begins at the Route 15/29 bridge crossing near Culpeper City and continues downstream until the confluence with the Rappahannock River.

City / County: Culpeper Co.

Use(s): Fish Consumption

Cause(s) /

VA Category: PCB in Fish Tissue / 5A

The fish consumption use is categorized as impaired due to a Virginia Department of Health, Division of Health Hazards Control, PCB fish consumption advisory. The advisory, dated 12/13/04, limits American eel consumption to no more than two meals per month.

Mountain Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Fish Consumption</b>			
PCB in Fish Tissue - Total Impaired Size by Water Type:			<b>19.33</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E09R-03-BAC** Mountain Run

Location: Begins at the confluence with an unnamed tributary that flows from Caymore Lake and continues downstream until Lake Pelham.

City / County: Culpeper Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (10 of 17 samples - 58.8%) from station 3-MTN027.08, at Route 641.

Mountain Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>1.56</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E09R-04-BAC**      **Jonas Run**

Location: Begins at the confluence with an unnamed tributary to Jonas Run (XDZ), at approximately rivermile 3.74, and continues downstream until the confluence with Mountain Run.

City / County: Culpeper Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (4 of 6 samples - 66.7%) from station 3-JOA000.80, at Route 663 (Stevensburg Road).

Jonas Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>3.71</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E10R-01-BAC**      **Deep Run**

Location: Begins at the confluence with Pine Branch and continues downstream until the confluence with the Rappahannock River.

City / County: Fauquier Co.      Stafford Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 4A

Fecal Coliform / 5A

2006 Assessment: E. coli bacteria criterion excursions (15 of 29 samples - 51.7%) from station 3-DPR001.70, at Route 17, and fecal coliform bacteria criterion excursions (2 of 7 - 28.6%) from station 3-DPR004.93, at Route 752.

Deep Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>4.80</b>

Deep Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Fecal Coliform - Total Impaired Size by Water Type:			<b>2.77</b>

### Sources:

Grazing in Riparian or  
Shoreline Zones

Impacts from Land  
Application of Wastes

Livestock (Grazing or  
Feeding Operations)

Runoff from  
Forest/Grassland/Parkland

Sewage Discharges in  
Unsewered Areas

Source Unknown

Wastes from Pets

Waterfowl

Wildlife Other than  
Waterfowl

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E10R-02-BAC**      **Sumerduck Run**

Location: Begins at the confluence of an unnamed tributary to Sumerduck Run, at Route 631, and continues downstream until the confluence with the Rappahannock River.

City / County: Fauquier Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (2 of 11 samples - 18.2%) from station 3-SMR002.60, at Route 615.

Sumerduck Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>3.55</b>

Sources:

Source Unknown



# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E12R-01-BAC**      **Rapidan River**

Location: Begins at the confluence with the Conway River and continues downstream until the confluence with White Run.

City / County: Greene Co.      Madison Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (6 of 39 samples - 15.4%) from station 3-RAP066.54, at Route 29.

Rapidan River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>6.91</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E13R-01-BAC**      **Blue Run**

Location: Begins at the headwaters of Blue Run and continues downstream until the confluence with the Rapidan River.

City / County: Albemarle Co.      Orange Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 5A

Fecal Coliform / 5A

E. coli bacteria criterion excursions (2 of 12 samples - 16.7%) from station 3-BLU000.80, at Route 641, E. coli bacteria criterion excursions (6 of 11 samples - 54.5%) from station 3-BLU002.60, at Route 20. 2006 Assessment: Fecal coliform bacteria criterion excursions (2 of 5 samples - 40.0%) from station 3-BLU006.44, at an unnamed road through Tibbstown.

Blue Run	Estuary	Reservoir	River
Recreation	(Sq. Miles)	(Acres)	(Miles)
Escherichia coli - Total Impaired Size by Water Type:			4.20
Blue Run	Estuary	Reservoir	River
Recreation	(Sq. Miles)	(Acres)	(Miles)
Fecal Coliform - Total Impaired Size by Water Type:			7.39

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E13R-02-BAC**      **Rapidan River**

Location: Begins at the confluence with Poplar Run and continues downstream until the confluence with the Robinson River.

City / County: Madison Co.      Orange Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (8 of 22 samples - 36.4%) from station 3-RAP045.08, at Route 15.

Rapidan River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>7.49</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E13R-04-BAC**      **Unnamed tributary to the Rapidan River**

Location: Begins at the headwaters of the unnamed tributary and continues downstream until the confluence with the Rapidan River.

City / County: Orange Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (6 of 10 samples - 60.0%) from station 3-XEZ000.12, at Route 634.

Unnamed tributary to the Rapidan River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>2.57</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E13R-05-BAC** Beautiful Run

Location: Begins at the confluence of an unnamed tributary, upstream from Route 620, and continues downstream until the confluence with the Rapidan River.

City / County: Madison Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (4 of 5 samples - 80.0%) from station 3-BFL000.90, at Route 620.

Beautiful Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>1.07</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E13R-06-BAC**      **Rapidan River**

Location: Begins at the confluence with Marsh Run and continues downstream until the confluence with Blue Run.

City / County: Madison Co.      Orange Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (2 of 10 samples - 20.0%) from station 3-RAP055.84, at Route 231.

Rapidan River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>4.27</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E13R-07-BAC**      **Unnamed tributary to Rapidan River**

Location: Begins at the headwaters of the unnamed tributary and continues downstream until the confluence with the Rapidan River.

City / County: Madison Co.

Use(s): Recreation

Cause(s) /  
VA Category: Fecal Coliform / 5A

2006 Assessment: Fecal coliform bacteria criterion excursions (5 of 7 samples - 71.4%) from station 3-XBO000.26, at Route 621.

Unnamed tributary to Rapidan River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Fecal Coliform - Total Impaired Size by Water Type:			<b>3.89</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E14R-01-BAC** Robinson River

Location: Begins at the confluence with the Rose River, just downstream of Route 670, and continues downstream until the confluence with White Oak Run.

City / County: Madison Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 4A Escherichia coli / 5A

E. coli bacteria criterion excursions (3 of 27 samples - 11.1%) from station 3-ROB017.24, at Route 638, and E. coli bacteria criterion excursions (6 of 20 samples - 30.0%) from station 3-ROB024.06, at Route 649.

Robinson River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			7.07

Sources:

Grazing in Riparian or Shoreline Zones	Impacts from Land Application of Wastes	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland
Sewage Discharges in Unsewered Areas	Source Unknown	Wastes from Pets	Waterfowl
Wildlife Other than Waterfowl			



# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E14R-01-TEMP** Robinson River

Location: Begins at the confluence with the Rose River, just downstream of Route 670, and continues downstream until the crossing of Route 231, rivermile 21.58.

City / County: Madison Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Temperature, water / 5A

Instantaneous temperature criterion excursions (4 of 26 samples - 15.4%) from station 3-ROB024.06, at Route 649.

Robinson River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Temperature, water - Total Impaired Size by Water Type:			<b>2.92</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E14R-02-BAC**      **Finks Run**

Location: Begins at the headwaters of Finks Run and continues downstream until the confluence with the Robinson River.

City / County: Madison Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (4 of 10 samples - 40.0%) from station 3-FIK001.08, at Route 650.

Finks Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>3.00</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E14R-02-TEMP**      **Rose River**

Location: Begins at rivermile 2.6, approximately 0.36 rivermile downstream from the confluence with Strother Run, and continues downstream until the confluence with the Robinson River.

City / County: Madison Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Temperature, water / 5A

Instantaneous temperature criterion excursions (3 of 24 samples - 12.5%) from station 3-ROE000.75, at a private road.

Rose River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Temperature, water - Total Impaired Size by Water Type:			<b>2.46</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E14R-03-BAC**      **White Oak Run**

Location: Begins at the Town of Madison's raw water intake, approximately 0.4 rivermile upstream from the Route 657 crossing, and continues downstream until the confluence with the Robinson River.

City / County: Madison Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (6 of 10 samples - 60.0%) from station 3-WHO003.42, at Route 657.

White Oak Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>3.00</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E14R-04-BAC**      **Leathers Run**

Location: Begins at the confluence with an unnamed tributary to Leathers Run, approximately 0.65 rivermile downstream from the Route 641 crossing, and continues downstream until the confluence with the Robinson River.

City / County: Madison Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (5 of 10 samples - 50.0%) from station 3-LEA000.17, at Route 609.

Leathers Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>2.07</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E15R-01-BAC**      **Little Dark Run**

Location: Begins at the headwaters of Little Dark Run and continues downstream until the confluence with Dark Run.

City / County: Madison Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (5 of 12 samples - 41.7%) from station 3-LDR000.70, at Route 680.

Little Dark Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			4.26

### Sources:

Grazing in Riparian or Shoreline Zones	Impacts from Land Application of Wastes	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland
Sewage Discharges in Unsewered Areas	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E15R-02-BAC** Robinson River

Location: Begins at the confluence with White Oak Run, at rivermile 5.18, and continues downstream until the confluence with the Rapidan River.

City / County: Culpeper Co. Madison Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (11 of 34 samples - 32.4%) from station 3-ROB001.90, at Route 614.

Robinson River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			5.21

### Sources:

Grazing in Riparian or Shoreline Zones	Impacts from Land Application of Wastes	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland
Sewage Discharges in Unsewered Areas	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E15R-03-BAC**      **Deep Run**

Location: Begins at the confluence with Muddy Run and continues downstream until the confluence with the Robinson River.

City / County: Madison Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (4 of 6 samples - 66.7%) from station 3-DRN001.81, at Route 638.

Deep Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>2.33</b>

Sources:

Source Unknown



# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E15R-05-BAC**      **Great Run**

Location: Begins at the headwaters of Great Run and continues downstream until the confluence with the Robinson River.

City / County: Madison Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (5 of 6 samples - 83.3%) from station 3-GRA002.01, at Route 15.

Great Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>8.41</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E16R-01-BAC** Cedar Run

Location: Begins at the confluence with Buck Run and continues downstream until the confluence with Cabin Branch.

City / County: Culpeper Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (10 of 17 samples - 58.8%) from station 3-CED003.52, at Route 652.

Cedar Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>3.20</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E16R-02-BAC**      **Rapidan River**

Location: Begins at the confluence with an unnamed tributary to the Rapidan River, at rivermile 34.5, approximately 0.6 rivermile downstream from Route 689, and continues downstream until the confluence with Cedar Run.

City / County: Culpeper Co.      Orange Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (9 of 34 samples - 26.5%) from station 3-RAP030.21, at Route 522.

Rapidan River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>4.58</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E16R-03-BAC**      **Rapidan River**

Location: Begins at the confluence with the Robinson River and continues downstream until the confluence with an unnamed tributary to the Rapidan River, at rivermile 36.6.

City / County: Culpeper Co.      Orange Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (4 of 12 samples - 33.3%) from station 3-RAP037.90, at Route 615 (Rapidan Road).

Rapidan River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>3.33</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E17R-01-BAC**      **Mine Run**

Location: Begins at the confluence with Cormack Run, approximately 0.6 rivermile upstream of Route 20, and continues downstream until the confluence with the Rapidan River.

City / County: Orange Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 4A

E. coli bacteria criterion excursions (7 of 19 samples - 36.8%) from station 3-MIR004.05, at Route 611.

Mine Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			9.93

Sources:

Grazing in Riparian or Shoreline Zones	Impacts from Land Application of Wastes	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland
Sewage Discharges in Unsewered Areas	Wastes from Pets	Waterfowl	Wildlife Other than Waterfowl

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E17R-02-BAC** Mountain Run

Location: Begins at the headwaters of Mountain Run and continues downstream until the confluence with Mine Run.

City / County: Orange Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 4A

Escherichia coli / 5A

E. coli bacteria criterion excursions (7 of 25 samples - 28.0%) from station 3-MTR003.51, at Route 611, and E. coli bacteria criterion excursions (6 of 12 samples - 50.0%) from station 3-MTR010.60, at Route 666.

Mountain Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			17.15

Sources:

Grazing in Riparian or Shoreline Zones	Impacts from Land Application of Wastes	Livestock (Grazing or Feeding Operations)	Runoff from Forest/Grassland/Parkland
Sewage Discharges in Unsewered Areas	Source Unknown	Wastes from Pets	Waterfowl
Wildlife Other than Waterfowl			

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E17R-03-BAC**      **Black Walnut Run**

Location: Begins at the Route 621 crossing and continues downstream until the confluence with Mine Run.

City / County: Orange Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (6 of 19 samples - 31.6%) from station 3-BWR004.13, at Route 602.

Black Walnut Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>6.23</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E18R-01-BAC**      **Rapidan River**

Location: Begins at the confluence with Wilderness Run, rivermile 7.78, and continues downstream until the confluence with Middle Run.

City / County: Culpeper Co.      Spotsylvania Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (10 of 29 samples - 34.5%) from station 3-RAP006.53, at Route 610.

Rapidan River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>2.47</b>

Sources:

Source Unknown



# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E18R-02-BAC** Wilderness Run

Location: Begins at the confluence of North Wilderness Run and South Wilderness Run and continues downstream until the confluence with the Rapidan River.

City / County: Orange Co. Spotsylvania Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (8 of 13 samples - 61.5%) from station 3-WIL004.00, at Route 3.

Wilderness Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>5.32</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E18R-03-BAC**      **Rapidan River**

Location: Begins at the boundary of the public water supply area, approximately 1.21 rivermiles upstream from the Route 3 crossing, and continues downstream until the confluence with Lick Branch.

City / County: Culpeper Co.      Orange Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (3 of 13 samples - 23.1%) from station 3-RAP014.45, at Route 3.

Rapidan River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>3.46</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E19L-01-HG**      **Motts Run Reservoir**

Location: Includes the entirety of Motts Run Reservoir.

City / County: Spotsylvania Co.

Use(s): Fish Consumption

Cause(s) /  
VA Category: Mercury in Fish Tissue / 5A

The fish consumption use is categorized as impaired due to a Virginia Department of Health, Division of Health Hazards Control, mercury (Hg) fish consumption advisory. The advisory, dated 8/31/07, limits consumption of largemouth bass to no more than two meals per month.

Motts Run Reservoir	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Fish Consumption</b>			
Mercury in Fish Tissue - Total Impaired Size by Water Type:			<b>137.17</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E19L-01-PH**      **Motts Run Reservoir**

Location: Includes the entirety of Motts Run Reservoir.

City / County: Spotsylvania Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: pH / 5C

Excursions outside of the pH criterion range (4 of 36 samples - 11.1%) from stations 3-MOT000.39 and 3-MOT001.19. Two excursions were above the pH criterion range and two excursions were below the pH criterion range.

Motts Run Reservoir	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
pH - Total Impaired Size by Water Type:			<b>137.17</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E20E-01-BAC**      **Rappahannock River**

Location: Begins at the fall line at Route 1 and continues downstream until the confluence with Mill Creek.

City / County: Caroline Co.      Fredericksburg City      King George Co.      Spotsylvania Co.      Stafford Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (4 of 36 samples - 11.1%) from station 3-RPP080.19, at Route 301, E. coli bacteria criterion excursions (6 of 36 samples - 16.7%) from station 3-RPP091.55, at Buoy 89, E. coli bacteria criterion excursions (6 of 36 samples - 16.7%) from station 3-RPP098.81, at Buoy 112, E. coli bacteria criterion excursions (6 of 23 samples - 26.1%) from station 3-RPP104.47, one hundred yards below the Massaponax Wastewater Treatment Facility, and E. coli bacteria criterion excursions (8 of 30 samples - 26.7%) from station 3-RPP110.57, at Route 1.

Rappahannock River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:		3.731	

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E20E-03-PCB**      **Rappahannock River**

Location: The Rappahannock River from the I-95 bridge downstream to the mouth near Stingray Point, including its tributaries Hazel Run up the I-95 bridge crossing and Claiborne Run up to the Route 1 bridge crossing.

City / County: Caroline Co.	Essex Co.	Fredericksburg City	King George Co.	Lancaster Co.
Middlesex Co.	Richmond Co.	Spotsylvania Co.	Stafford Co.	Westmoreland Co.

Use(s): Fish Consumption

Cause(s) /  
VA Category: PCB in Fish Tissue / 5A

During the 2006 cycle, the VDH issued a fish consumption advisory on 12/13/2004 for PCBs in American eel, blue catfish, carp, channel catfish, croaker, gizzard shad, and anadromous (coastal) striped bass

Rappahannock River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Fish Consumption</b>			
PCB in Fish Tissue - Total Impaired Size by Water Type:	<b>128.819</b>		<b>8.59</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E20R-01-BAC**      **Claiborne Run**

Location: Begins at the Route 1 crossing of Claiborne Run and continues downstream until the confluence with the Rappahannock River.

City / County: Stafford Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (11 of 26 samples - 42.3%) from station 3-CLB000.50, at Route 3, and E. coli bacteria criterion excursions (3 of 11 samples - 27.3%) from station 3-CLB002.70, at Route 623 (Harrell Road).

Claiborne Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>4.21</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E20R-02-BAC**      **Hazel Run**

Location: Begins at the Route 95 crossing and continues downstream until the confluence with the Rappahannock River.

City / County: Fredericksburg City      Spotsylvania Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions; 3-HAL000.57, at Route 17/2 (3 of 11 samples - 27.3%), 3-HAL001.44, at Route 1 Business (Lafayette Boulevard) (3 of 14 samples - 21.4%), and 3-HAL002.61, at Route 1 (Jefferson Davis Boulevard) (3 of 10 samples - 30.0%).

Hazel Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>4.38</b>

Sources:

Source Unknown



# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E20R-02-PH**      **Hazel Run**

Location: Begins at the Route 95 crossing and continues downstream until the confluence with the Rappahannock River.

City / County: Fredericksburg City      Spotsylvania Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: pH / 5A

Excursions below the lower limit of the pH criterion range (2 of 14 samples - 14.3%) from station 3-HAL001.44, at Route 1 Business (Lafayette Boulevard).

Hazel Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
pH - Total Impaired Size by Water Type:			<b>4.38</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E20R-03-BAC**      **Massaponax Creek**

Location: Begins at the confluence with an unnamed tributary to Massaponax Creek, just upstream of Route 1, and continues downstream until the confluence with another unnamed tributary, approximately 0.25 rivermile upstream of Ruffins Pond.

City / County: Spotsylvania Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (11 of 25 samples - 44.0%) from station 3-MAP007.97, at Route 1, and (4 of 12 samples - 33.3%) from station 3-MAP002.61, at Route 609.

Massaponax Creek	Estuary	Reservoir	River
<b>Recreation</b>	(Sq. Miles)	(Acres)	(Miles)
Escherichia coli - Total Impaired Size by Water Type:			<b>6.06</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E20R-03-PH**      **Massaponax Creek**

Location: Begins at the confluence with an unnamed tributary to Massaponax Creek, just upstream of Route 1, and continues downstream until the confluence with another unnamed tributary, approximately 0.25 rivermile upstream of Ruffins Pond.

City / County: Spotsylvania Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: pH / 5A

Excursions (5 of 25 samples - 20.0%) below the lower limit of the pH criterion range from station 3-MAP007.97, at Route 1.

Massaponax Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
pH - Total Impaired Size by Water Type:			<b>6.06</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E20R-04-BAC**      **Massaponax Creek**

Location: Begins at the confluence with an unnamed tributary, approximately 1.1 rivermiles downstream from Route 673, and continues downstream until the confluence with another unnamed tributary, approximately 0.25 rivermile upstream from Route 639.

City / County: Spotsylvania Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (4 of 10 samples - 40.0%) from station 3-MAP010.37, at Route 208 (Courthouse Road).

Massaponax Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>2.02</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E21R-01-BAC**      **Muddy Creek**

Location: Begins at the confluence with an unnamed tributary to Muddy Creek, approximately 0.7 rivermile downstream from Route 218, and continues downstream until the confluence with the Rappahannock River.

City / County: King George Co.      Stafford Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (3 of 7 samples - 42.8%) from station 3-MUY001.43, at Route 3.

Muddy Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>3.39</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E21R-02-BEN**      **Ware Creek**

Location: Begins at the headwaters of Ware Creek and continues downstream until the confluence with an unnamed tributary to Ware Creek, just downstream from Burma Road.

City / County: Caroline Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

One of one biological monitoring event in 2002 at station 3-WAE005.95 (Fort A.P. Hill) resulted in a MACS score which indicates an impaired macroinvertebrate community.

Ware Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			<b>2.94</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E21R-02-PH**      Ware Creek

Location: Begins at the headwaters of Ware Creek and continues downstream until the confluence with the Rappahannock River.

City / County: Caroline Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: pH / 5C

Excursions below the lower limit of the pH criterion range (3 of 6 samples - 50.0%) from station 3-WAE000.72, at Route 17, and (2 of 2 samples - 100%) from station (3-WAE005.95), at Fort A.P. Hill.

Ware Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
pH - Total Impaired Size by Water Type:			<b>7.10</b>

### Sources:

- Natural Conditions - Water
- Quality Standards Use
- Attainability Analyses
- Needed

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E21R-03-BAC**      **Gingoteague Creek**

Location: Begins at the confluence with an unnamed tributary to Gingoteague Creek, at rivermile 2.99, and continues downstream until tidal waters, near the confluence with the Rappahannock River.

City / County: King George Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (3 of 7 samples - 42.8%) from station 3-GIN002.64, at Route 625.

Gingoteague Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>1.38</b>

Sources:

Source Unknown



# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E21R-03-PH**      **Gingoteague Creek**

Location: Begins at the confluence with an unnamed tributary to Gingoteague Creek, at rivermile 2.99, and continues downstream until tidal waters, near the confluence with the Rappahannock River.

City / County: King George Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: pH / 5C

Excursions below the lower limit of the pH criterion range (2 of 7 samples - 28.6%) from station 3-GIN002.64, at Route 625.

Gingoteague Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
pH - Total Impaired Size by Water Type:			<b>1.38</b>

Sources:

- Natural Conditions - Water
- Quality Standards Use
- Attainability Analyses
- Needed

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E21R-04-BEN**      **Mill Creek**

Location: Begins at the confluence with an unnamed tributary, at rivermile 9.5, and continues downstream until the confluence with Peumansend Creek, at rivermile 6.06.

City / County: Caroline Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Two biological monitoring events in 2004 at station 8-MTA012.09 (upstream of Route 646) resulted in a MACS score which indicates an impaired macroinvertebrate community.

Mill Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			<b>3.38</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E21R-05-BAC**      **Mount Creek**

Location: Begins at the confluence with West Branch and continues downstream until the confluence with the Rappahannock River.

City / County: Caroline Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (2 of 7 samples - 28.6%) from station 3-MTC001.94, at Route 17.

Mount Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>3.98</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E21R-05-PH**      **Mount Creek**

Location: Begins at the confluence with West Branch and continues downstream until the confluence with the Rappahannock River.

City / County: Caroline Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: pH / 5C

Excursions below the lower limit of the pH criterion range (5 of 7 samples - 71.4%) from station 3-MTC001.94, at Route 17.

Mount Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
pH - Total Impaired Size by Water Type:			<b>3.98</b>

Sources:

- Natural Conditions - Water
- Quality Standards Use
- Attainability Analyses
- Needed

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E21R-06-BAC**      **Lambs Creek**

Location: Begins at the confluence with Popcastle Creek and continues downstream until tidal waters, near the confluence with the Rappahannock River.

City / County: King George Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (3 of 7 samples - 42.8%) from station 3-LAM000.57, at Route 3.

Lambs Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>0.57</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E21R-07-BAC**      **Mill Creek**

Location: Begins at the confluence with Peumansend Creek, at rivermile 6.06, and continues downstream until the tidal waters of Mill Creek.

City / County: Caroline Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

E. coli bacteria criterion excursions (4 of 8 samples - 50.0%) at station 3-MIC0001.66, at Route 17.

Mill Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>4.17</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E21R-07-PH**      **Mill Creek**

Location: Begins at the confluence with Peumansend Creek, at rivermile 6.06, and continues downstream until the tidal waters of Mill Creek.

City / County: Caroline Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: pH / 5C

Excursions below the lower limit of the pH criterion range (3 of 8 samples - 37.5%) at station 3-MIC0001.66, at Route 17.

Mill Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
pH - Total Impaired Size by Water Type:			<b>4.17</b>

### Sources:

- Natural Conditions - Water
- Quality Standards Use
- Attainability Analyses
- Needed

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E21R-08-DO**      **Goldenvale Creek**

Location: Begins at the confluence with Doctor Branch and continues downstream until tidal waters, near the confluence with the Rappahannock River.

City / County: Caroline Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Oxygen, Dissolved / 5C

Excursions below the instantaneous dissolved oxygen criterion (2 of 8 samples - 25.0%) from station 3-GLL001.98, at Route 17.

Goldenvale Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Oxygen, Dissolved - Total Impaired Size by Water Type:			<b>4.89</b>

Sources:

- Natural Conditions - Water
- Quality Standards Use
- Attainability Analyses
- Needed



# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E21R-08-PH**      **Goldenvale Creek**

Location: Begins at the confluence with Doctor Branch and continues downstream until tidal waters, near the confluence with the Rappahannock River.

City / County: Caroline Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: pH / 5C

Excursions below the lower limit of the pH criterion range (4 of 8 samples - 50.0%) from station 3-GLL001.98, at Route 17.

Goldenvale Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
pH - Total Impaired Size by Water Type:			<b>4.89</b>

Sources:

- Natural Conditions - Water
- Quality Standards Use
- Attainability Analyses
- Needed

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E22E-02-EBEN**      **Rappahannock River**

Location: The mesohaline mainstem of the Rappahannock River

City / County: Essex Co.                      Lancaster Co.                      Middlesex Co.                      Richmond Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: Estuarine Bioassessments / 5A

In 2004 the mesohaline portion of the mainstem Rappahannock indicated benthic impairment based on the Chesapeake Bay Benthic Index of Biological Integrity. The impairment was attributed to low oxygen and the benthic impairment was treated as a confirmation of the impairment. The mainstem remained impaired in the 2006 cycle, however due to guidance changes the segment was 303(d) listed for estuarine bioassessments. The segment remains impaired in the 2008 cycle.

Rappahannock River	Estuary	Reservoir	River
<b>Aquatic Life</b>	(Sq. Miles)	(Acres)	(Miles)
Estuarine Bioassessments - Total Impaired Size by Water Type:			
<b>110.177</b>			

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E22E-04-BAC**      **Rappahannock River**

Location: The transition zone of the Rappahannock River.

City / County: Essex Co.                      King George Co.                      Westmoreland Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

During the 2008 cycle, the Rappahannock River from Devils Point downstream to the oligohaline boundary was assessed as not supporting of the Recreation Use due to an E. coli violation rate of 3/27 at 3-RPP064.40.

Rappahannock River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>5.121</b>

Sources:

Source Unknown

## *Rappahannock River Basin*

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# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E22R-01-BAC**      **Occupacia Creek**

Location: Occupacia Creek from the Hunters Millpond Dam to the extent of tidal influences.

City / County: Essex Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

Occupacia Creek was initially assessed as impaired of the Recreation Use during the 2002 cycle. During the 2006 cycle, the segment remained not supporting based on a fecal coliform violation rate of 3/19 at the Route 17 bridge (3-OCC010.47). In addition, in 2006 the segment was also impaired for E. coli based on a violation rate of 2/11 at 3-OCC010.47. The bacteria TMDL is due 4/1/2014.

During the 2008 cycle, the impairment converted to E. coli with a violation rate of 3/21.

Occupacia Creek	Estuary	Reservoir	River
<b>Recreation</b>	(Sq. Miles)	(Acres)	(Miles)
Escherichia coli - Total Impaired Size by Water Type:			<b>2.15</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E22R-01-PH**      **Occupacia Creek**

Location: Occupacia Creek from the Hunters Millpond Dam to the extent of tidal influences.

City / County: Essex Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: pH / 4C

In 1998, the segment was identified to Virginia for listing consideration. During the 2002 cycle, the segment was assessed as impaired of the Aquatic Life use based on pH standard violations at the Route 17 bridge (3-OCC010.47).

During the 2006 cycle, the segment remained not supporting due to pH violations. The pH TMDL was due in 2010. However, during the 2006 cycle, a Natural Conditions Assessment for low pH in Occupacia Creek was performed. The report recommends that the nontidal Occupacia Creek watershed above the fall line (including Black Water Creek and its tribs) be reclassified as Class VII swampwaters. Until the reclassification, the watershed will be considered Cat. 4C for pH.

Occupacia Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
pH - Total Impaired Size by Water Type:			<b>2.15</b>

Sources:

Natural Conditions - Water  
Quality Standards Use  
Attainability Analyses  
Needed

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E22R-02-BAC**      **Farmers Hall Creek**

Location: Farmers Hall Creek from its headwaters to its mouth at the Rappahannock River

City / County: Essex Co.

Use(s): Recreation

Cause(s) /  
VA Category: Fecal Coliform / 5A

Farmers Hall Creek was assessed as not supporting the Recreation Use support goal based on a fecal coliform violation rate of 3/13 at the Route 631 bridge (3-FAR002.88). The TMDL is due in 2016.

Farmers Hall Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Fecal Coliform - Total Impaired Size by Water Type:			<b>3.90</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E22R-02-PH**      **Farmers Hall Creek**

Location: Farmers Hall Creek from its headwaters to its mouth at the Rappahannock River

City / County: Essex Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: pH / 5C

In 2006, Farmers Hall Creek was assessed as not supporting of the Aquatic Life Use support goal based on a pH violation rate of 2/13 at the Route 631 bridge (3-FAR002.88). The TMDL is due in 2018.

Farmers Hall Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
pH - Total Impaired Size by Water Type:			<b>3.90</b>

### Sources:

- Natural Conditions - Water
- Quality Standards Use
- Attainability Analyses
- Needed



# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E22R-03-DO**      **Occupacia Creek and Tribs**

Location: Occupacia Creek from the headwaters to Hunters Millpond dam, and all tribs entering above the tidal limit.

City / County: Essex Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Oxygen, Dissolved / 5C

Since 2002, Occupacia Creek from the Hunters Millpond dam downstream to the tidal limit has been assessed as not supporting for the Aquatic Life Use based on pH violations at 3-OCC010.47. During the 2006 cycle, a Natural Conditions Assessment for low pH in Occupacia Creek was performed. The report recommends that the tidal Occupacia Creek watershed above the fall line (including Black Water Creek and its tribs) be reclassified as Class VII swampwaters. The segment also shows impairment for dissolved oxygen. Although the low DO is believed to be caused by the documented natural low-slope conditions, the segment is assessed as Cat. 5C.

DO 2/18 at 3-BLK002.54  
DO 5/18 at 3-BLK006.96  
DO 7/17 at 3-XGI000.44  
DO 2/18 at 3-XGJ002.23  
DO 2/18 at 3-XGJ004.46

Occupacia Creek and Tribs	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Oxygen, Dissolved - Total Impaired Size by Water Type:			<b>37.76</b>

Sources:

Natural Conditions - Water  
Quality Standards Use  
Attainability Analyses  
Needed

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E22R-03-PH**

**Occupacia Creek and Tribs**

Location: Occupacia Creek from the headwaters to Hunters Millpond dam, and all tribs entering above the tidal limit.

City / County: Essex Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: pH / 4C

Since 2002, Occupacia Creek from the Hunters Millpond dam downstream to the tidal limit has been assessed as not supporting for the Aquatic Life Use based on pH violations at 3-OCC010.47, which is located at the Route 17 bridge (refer to VAP-E22R-01). During the 2006 cycle, a Natural Conditions Assessment for low pH in Occupacia Creek was performed. The report recommends that the tidal Occupacia Creek watershed above the fall line (including Black Water Creek and its tribs) be reclassified as Class VII swampwaters. Until the reclassification, the watershed will be considered Cat. 4C for pH.

pH 5/10 at 3-BLK001.31  
pH 2/2 at 3-BLK001.92  
pH 14/18 at 3-BLK002.54  
pH 16/18 at 3-BLK005.31  
pH 18/18 at 3-BLK006.96  
pH 17/17 at 3-XGI000.44  
pH 9/18 at 3-XGJ002.23  
pH 10/18 at 3-XGJ004.46

Occupacia Creek and Tribs

**Aquatic Life**

Estuary  
(Sq. Miles)

Reservoir  
(Acres)

River  
(Miles)

pH - Total Impaired Size by Water Type:

**37.76**

Sources:

Natural Conditions - Water  
Quality Standards Use  
Attainability Analyses  
Needed

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E22R-04-PH** Elmwood Creek

Location: The nontidal portion of Elmwood Creek.

City / County: Essex Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: pH / 5C

Elmwood Creek was assessed as not supporting the Aquatic Life Use based on a pH violation rate of 4/10 at 3-ELM002.23, which is located at the Route 17 bridge.

Elmwood Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
pH - Total Impaired Size by Water Type:			<b>4.39</b>

### Sources:

- Natural Conditions - Water
- Quality Standards Use
- Attainability Analyses
- Needed

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E22R-05-BAC**      **Baylors Creek**

Location: Baylors Creek from its headwaters to the extent of backwater of Baylors Pond.

City / County: Essex Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

During the 2008 cycle, Baylors Creek was assessed as impaired of the Recreation Use due to an E.coli violation rate of 2/16 at the Route 17 bridge (3-BAY002.62).

Baylors Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>4.99</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E22R-05-DO**      **Baylors Creek**

Location: Baylors Creek from its headwaters to the extent of backwater of Baylors Pond.

City / County: Essex Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: Oxygen, Dissolved / 5C

During the 2008 cycle, Baylors Creek was assessed as impaired of the Aquatic Life Use due to a dissolved oxygen violation rate of 2/16 at the Route 17 bridge (3-BAY002.62). Natural conditions are suspected.

Baylors Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Oxygen, Dissolved - Total Impaired Size by Water Type:			<b>4.99</b>

### Sources:

- Natural Conditions - Water
- Quality Standards Use
- Attainability Analyses
- Needed

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E22R-05-PH**      **Baylors Creek**

Location: Baylors Creek from its headwaters to the extent of backwater of Baylors Pond.

City / County: Essex Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: pH / 5C

During the 2008 cycle, Baylors Creek was assessed as impaired of the Aquatic Life Use due to a pH violation rate of 6/16 at the Route 17 bridge (3-BAY002.62).

Baylors Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
pH - Total Impaired Size by Water Type:			<b>4.99</b>

### Sources:

- Natural Conditions - Water
- Quality Standards Use
- Attainability Analyses
- Needed

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E22R-06-BAC**      **Peedee Creek**

Location: The mainstem of Peedee Creek from its headwaters to the extent of tide.

City / County: Westmoreland Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

During the 2008 cycle, Peedee Creek was assessed as not supporting of the Recreation Use due to an E. coli violation rate of 2/10 at the Route 640 bridge (3-PEE004.46).

Peedee Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>2.96</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E22R-06-PH** **Peedee Creek**

Location: The mainstem of Peedee Creek from its headwaters to the extent of tide.

City / County: Westmoreland Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: pH / 5C

During the 2008 cycle, Peedee Creek was assessed as not supporting of the Aquatic Life Use due to a pH violation rate of 2/10 at the Route 640 bridge (3-PEE004.46).

Peedee Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
pH - Total Impaired Size by Water Type:			<b>2.96</b>

Sources:

- Natural Conditions - Water
- Quality Standards Use
- Attainability Analyses
- Needed



# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E23E-01-SF** Upper Rappahannock River, Little Carter Creek, Jugs Creek

Location: As described in VDH Notice and Description of Shellfish Condemnation 025-068A; 11/14/2005

City / County: Essex Co. Richmond Co.

Use(s): Shellfishing

Cause(s) /  
VA Category: Fecal Coliform / 5B

VDH-DSS Shellfish Condemnation 025-068B, 11/14/2005

Size increased in 2006 and 2008 cycles.

Note: the previous Little Carter Creek/Jugs Creek VDH-DSS Shellfish Condemnation (068B, 3/6/2002) remains closed but is now incorporated into this shellfish condemnation

Upper Rappahannock River, Little Carter Creek, Jugs Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	9.731		

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E23E-03-BAC**      **Hoskins Creek, Church Swamp**

Location: The tidal portion of Hoskins Creek and Church Swamp.

City / County: Essex Co.

Use(s): Recreation

Cause(s) /  
VA Category: Enterococcus / 5A

Tidal Hoskins Creek was initially included on the 1994 303(d) list based on excessive fecal coliform standard violations recorded at the Rt. 360 bridge (3-HOK000.74). The upstream limit was extended to the Town of Tappahannock STP in the 1998 cycle in recognition that the STP may be a contributing source, although this has not been verified. During the 2006 cycle, the segment remained impaired and enterococci was added as an impairing cause. TMDL monitoring was initiated in the 2008 cycle; the impairment was confirmed based on the following enterococci violation rates:

8/9 at 3-HOK000.15  
15/21 at 3-HOK000.74  
6/9 at 3-HOK002.74  
5/9 at 3-HOK003.61

The segment was extended upstream to the tidal limit due to enterococci violations upstream of the sewage treatment plant and due to an enterococci violation rate of 4/9 at 3-CRC000.15.

Hoskins Creek, Church Swamp	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Enterococcus - Total Impaired Size by Water Type:			
	<b>0.154</b>		

Sources:

Municipal Point Source      Source Unknown  
Discharges

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E23E-03-CHLR**      **Hoskins Creek**

Location: The tidal portion of Hoskins Creek.

City / County: Essex Co.

Use(s): Aquatic Life                      Wildlife

Cause(s) /  
VA Category: Chloride / 5C

A tidal portion of Hoskins Creek has been assessed as not supporting the Aquatic Life and Wildlife uses since the 2004 cycle based on chloride violations at 3-HOK000.74. The TMDL for chloride is due in 2016.

Segment extended in the 2008 cycle.

Hoskins Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Chloride - Total Impaired Size by Water Type:	<b>0.152</b>		
Hoskins Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Wildlife</b>			
Chloride - Total Impaired Size by Water Type:	<b>0.152</b>		

Sources:

- Natural Conditions - Water
- Quality Standards Use
- Attainability Analyses
- Needed

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E23E-03-PH**      **Hoskins Creek**

Location: Hoskins Creek from its tidal limit to the confluence with Church Swamp.

City / County: Essex Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: pH / 5C

During the 2006 cycle, pH was added as an impairment because of violations at 3-HOK003.61, which is located at the Route 659 bridge. Natural conditions are suspected. The violation rate was 10/32 in the 2008 cycle. The TMDL is due in 2018.

The upstream segment extent was corrected in the 2008 cycle due to acceptable pH values at three downstream stations.

Hoskins Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
pH - Total Impaired Size by Water Type:			
			<b>0.052</b>

Sources:

- Natural Conditions - Water
- Quality Standards Use
- Attainability Analyses
- Needed

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E23E-04-CHLR**      **Piscataway Creek**

Location: Segment begins at the limit of tide and extends downstream to its mouth at the Rappahannock River.

City / County: Essex Co.

Use(s): Aquatic Life                      Wildlife

Cause(s) /  
VA Category: Chloride / 5C

In the 2004 cycle, tidal Piscataway Creek was assessed not supporting of the Aquatic Life and Wildlife Uses due to chloride violations. This TMDL is due in 2016.

Piscataway Creek	Estuary	Reservoir	River
<b>Aquatic Life</b>	(Sq. Miles)	(Acres)	(Miles)
Chloride - Total Impaired Size by Water Type:	<b>0.588</b>		
Piscataway Creek	Estuary	Reservoir	River
<b>Wildlife</b>	(Sq. Miles)	(Acres)	(Miles)
Chloride - Total Impaired Size by Water Type:	<b>0.588</b>		

Sources:

- Natural Conditions - Water
- Quality Standards Use
- Attainability Analyses
- Needed

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E23E-04-PH**      **Piscataway Creek**

Location: Segment begins at the limit of tide and extends downstream to its mouth at the Rappahannock River.

City / County: Essex Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: pH / 4C

The tidal Piscataway Creek was assessed not supporting of the Aquatic Life Use in 2002 based on a pH violation rate of 2/19 at the Route 17 bridge (3-PIS004.79). The pH TMDL was due in 2014, however a Natural Conditions Assessment was performed on the Piscataway Creek watershed during the 2006 cycle. The report recommends that the creek and its tributaries be reclassified as Class VII swampwaters. Until the WQS can be changed, the segment will be considered Cat. 4C for pH.

Piscataway Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
pH - Total Impaired Size by Water Type:			
			<b>0.588</b>

Sources:

- Natural Conditions - Water
- Quality Standards Use
- Attainability Analyses
- Needed

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E23L-01-HG**      **Chandlers Millpond**

Location: Chandlers Millpond in its entirety

City / County: Westmoreland Co.

Use(s): Fish Consumption

Cause(s) /

VA Category: Mercury in Fish Tissue / 5A

During the 2008 cycle, the Virginia Department of Health issued a fish consumption advisory for Chandlers Millpond based upon DEQ fish tissue monitoring at station 3-CMR001.00. The advisory recommends consuming no more than two meals/month of largemouth bass due to the presence of mercury.

Chandlers Millpond	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Fish Consumption</b>			
Mercury in Fish Tissue - Total Impaired Size by Water Type:			<b>51.87</b>

Sources:

Atmospheric Deposition -      Source Unknown  
Toxics

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E23R-01-PH**      **Cat Point Creek Watershed**

Location: Cat Point Creek and its major tributaries above Canal Swamp.

City / County: Richmond Co.      Westmoreland Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: pH / 4C

Cat Point Creek from Ruin Branch to Canal Swamp (4.99 miles) was assessed as not supporting of the Aquatic Life use support goal during the 1998 cycle based on pH standard violations recorded at monitoring station 3-CAT011.62, located at the Route 637 bridge. During the year 2004 cycle, the segment was extended due to the pH violations throughout the watershed:

The TMDL for the original segment was due in 2014, but the TMDL for the upstream portion of Cat Point Creek and the tributaries was not due until 2016.

During the 2006 cycle, the "Natural Conditions Assessment for low pH, Cat Point Creek, Richmond and Westmoreland Counties, Virginia" recommended that Cat Point Creek and its tributaries from their headwaters to the head of tide at rivermile 10.54 (Canal Swamp) be reclassified as Class VII swampwaters. Until the WQS can be changed, the streams will be assessed as Cat. 4C for pH.

During the 1998 cycle, Canal Swamp was mistakenly called Bellfield Creek.

Cat Point Creek Watershed	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
pH - Total Impaired Size by Water Type:			<b>65.74</b>

Sources:

Natural Conditions - Water  
Quality Standards Use  
Attainability Analyses  
Needed



# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E23R-02**

### Mount Landing Creek

Location: The segment starts at the first tributary upstream of the Route 716 bridge, and extends downstream to the effect of tide.

City / County: Essex Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Oxygen, Dissolved / 4C

pH / 4C

Mount Landing Creek from the Route 716 bridge to the tidal limit at river mile 1.00 was assessed not supporting of the Aquatic Life use support goal in 1998 based on pH violations recorded at monitoring station 3-MTL004.82, located at the Route 716 bridge.

The segment location was changed during the year 2002 cycle because it was determined that the tidal limit is actually located at approximately river mile 4.44 and that the swamp conditions that may cause the DO impairment extend upstream of the bridge. In addition, the segment was also listed as impaired for dissolved oxygen. The pH TMDL was due in 2010 and the DO TMDL was due in 2014.

During the 2006 cycle, the "Natural Conditions Assessment for low pH, Mount Landing Creek, Essex, Virginia" recommended that Mount Landing Creek and its tributaries from its headwaters downstream to the head of tide at rivermile 4.44 be reclassified as Class VII swampwater. In addition, the "Natural Conditions Assessment for low DO, Mount Landing Creek, Essex, Virginia" recommended that Mount Landing Creek from the confluence with Bull Neck Creek at rivermile 10.40 downstream to the head of tide at rivermile 4.44 be reclassified as Class VII swampwater. Until the reclassification, the streams will be assessed as Cat. 4C for pH and DO.

Mount Landing Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Oxygen, Dissolved - Total Impaired Size by Water Type:			<b>1.17</b>
Mount Landing Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
pH - Total Impaired Size by Water Type:			<b>1.17</b>

Sources:

Natural Conditions - Water  
Quality Standards Use  
Attainability Analyses  
Needed

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E23R-03-PH** Piscataway Creek Watershed

Location: The nontidal Piscataway watershed.

City / County: Essex Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: pH / 4C

Piscataway Creek from Sturgeon Swamp downstream to the tidal limit was initially assessed not supporting of the Aquatic Life use support goal in 1998 based on pH standard violations recorded at monitoring station 3-PIS009.24, located at the Route 691 bridge. The TMDL was due in 2010.

During the 2004 cycle, UT XFL was also considered impaired for pH (2004 fact sheet VAP-E23R-08). The TMDL was due by 2014.

During the 2006 cycle, additional watershed monitoring was performed and all of Piscataway Creek is impaired for pH, as well as XFL, XFM, XFN, Mussell Swamp, Sturgeon Swamp, and Mill Creek; therefore the segment was expanded with TMDL due dates of 2018. However, the "Natural Conditions Assessment for low pH, Piscataway Creek, Essex, Virginia" was completed during the cycle. The report recommends that Piscataway Creek and its tributaries from its headwaters to its mouth at the Rappahannock River be reclassified as Class VII swampwaters. Until the reclassification, the watershed will be considered Cat. 4C for pH.

Piscataway Creek Watershed	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			30.06

Sources:

Natural Conditions - Water  
Quality Standards Use  
Attainability Analyses  
Needed

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E23R-04-PH**      **Hoskins Creek**

Location: Headwaters to tidal limit

City / County: Essex Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: pH / 5C

Hoskins Creek was initially assessed as not supporting of the Aquatic Life use support goal in 2004 based on pH standard violations at 3-HOK011.45 and 3-HOK007.25, located at the Route 717 and Route 718 bridges, respectively.

During the 2008 cycle, the segment remained impaired with pH violations of the following:

- 16/31 at 3-HOK007.25
- 12/21 at 3-HOK011.45
- 8/8 at 3-HOK013.94
- 8/8 at 3-HOK014.48

Hoskins Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
pH - Total Impaired Size by Water Type:			<b>12.74</b>

Sources:

- Natural Conditions - Water
- Quality Standards Use
- Attainability Analyses
- Needed

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E23R-05-PH**                      **UT to Mount Landing Creek, Bull Neck Creek**

Location: UT to Mount Landing Creek and Bull Neck Creek from their headwaters to their mouths at Mount Landing Creek

City / County: Essex Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: pH / 4C

The UT was initially assessed not supporting of the Aquatic Life use support goal in 2004 based on pH standard violations recorded at monitoring station 3-XFK001.38, located at the Route 628 bridge. This station is a TMDL study station to address the low pH in Mount Landing Creek.

During the 2006 cycle, the "Natural Conditions Assessment for low pH, Mount Landing Creek, Essex, Virginia" was completed and it recommended that Mount Landing Creek and its tributaries from its headwaters downstream to the head of tide at rivermile 4.44 be reclassified as Class VII swampwater. The pH violation rate at 3-XFK001.38 was 13/15 during the 2006 cycle. In addition, there was a new 2006 pH impairment at TMDL station 3-BNC000.92 on Bull Neck Creek at the Route 630 bridge. Until the reclassification, the streams will be assessed as Cat. 4C for pH.

UT to Mount Landing Creek, Bull Neck Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			6.82

Sources:

Natural Conditions - Water  
Quality Standards Use  
Attainability Analyses  
Needed

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E23R-07-PH**      **Mount Landing Creek**

Location: Mount Landing Creek from the confluence with Bull Neck Creek downstream to the first tributary above the Route 716 bridge  
City / County: Essex Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: pH / 4C

The segment was initially assessed not supporting of the Aquatic Life use support goal in 2004 based on pH standard violations recorded at monitoring station 3-MTL010.40, located at the Route 629 bridge. This station was a TMDL study station to address the low pH in Mount Landing Creek.

During the 2006 cycle, the "Natural Conditions Assessment for low pH, Mount Landing Creek, Essex, Virginia" was completed and recommended that Mount Landing Creek and its tributaries from its headwaters downstream to the head of tide at rivermile 4.44 be reclassified as Class VII swampwater. Until the reclassification, the streams will be assessed as Cat. 4C for pH. The pH violation rate was 11/28 at 3-MTL010.40 during the 2006 cycle.

Mount Landing Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			4.90

- Sources:
- Natural Conditions - Water
  - Quality Standards Use
  - Attainability Analyses
  - Needed

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E23R-09-PH** Church Swamp

Location: Church Swamp from its headwaters to its tidal limit at Hoskins Creek

City / County: Essex Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: pH / 5C

Church Swamp was assessed as not supporting the Aquatic Life Use based on a pH violation rate of 2/2 at 3-CRC001.38.

Church Swamp	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			3.23

### Sources:

- Natural Conditions - Water
- Quality Standards Use
- Attainability Analyses
- Needed

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E23R-10-DO**      **UT to Piscataway Creek XFN**

Location: Headwaters to mouth at Piscataway Creek

City / County: Essex Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Oxygen, Dissolved / 5C

During the 2006 cycle, UT XFN was assessed as impaired of the Aquatic Life Use based on a dissolved oxygen violation rate of 2/15 at 3-XFN000.01. Natural conditions are suspected, therefore the segment is assessed as Cat. 5C until the natural conditions assessment for DO can be performed.

UT to Piscataway Creek XFN	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Oxygen, Dissolved - Total Impaired Size by Water Type:			<b>3.23</b>

Sources:

- Natural Conditions - Water
- Quality Standards Use
- Attainability Analyses
- Needed

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E23R-11-DO**      **UT to Piscataway Creek XFM**

Location: Headwaters to mouth at Piscataway Creek

City / County: Essex Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Oxygen, Dissolved / 5C

During the 2006 cycle, UT XFM was assessed as impaired of the Aquatic Life Use based on a dissolved oxygen violation rate of 2/18 at 3-XFM000.82, located at the Route 623 bridge. Natural conditions are suspected, therefore the segment is assessed as Cat. 5C until the natural conditions assessment for DO can be performed.

UT to Piscataway Creek XFM	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Oxygen, Dissolved - Total Impaired Size by Water Type:			<b>2.99</b>

Sources:

- Natural Conditions - Water
- Quality Standards Use
- Attainability Analyses
- Needed



# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E23R-12-DO**      **Mussell Swamp**

Location: Headwaters to mouth at Piscataway Creek

City / County: Essex Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: Oxygen, Dissolved / 5C

During the 2006 cycle, Mussell Swamp was assessed as impaired of the Aquatic Life Use based on a dissolved oxygen violation rate of 2/16 at 3-MUS001.23, located at the Route 615 bridge. Natural conditions are suspected, therefore the segment is assessed as Cat. 5C until the natural conditions assessment for DO can be performed. During the 2008 cycle, the violation rate was 3/26.

Mussell Swamp	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Oxygen, Dissolved - Total Impaired Size by Water Type:			<b>5.12</b>

Sources:

- Natural Conditions - Water
- Quality Standards Use
- Attainability Analyses
- Needed

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E23R-14-DO**      **Black Swamp**

Location: Black Swamp from its headwaters downstream to the extent of backwater at Chandlers Millpond.

City / County: Westmoreland Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: Oxygen, Dissolved / 5C

During the 2006 cycle, Black Swamp was assessed as not supporting the Aquatic Life Use based on a dissolved oxygen violation rate of 6/15 at 3-BLA002.31, which is located at the Route 644 bridge.

This segment is nested within VAP-E23R-01.

Black Swamp	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Oxygen, Dissolved - Total Impaired Size by Water Type:			<b>4.15</b>

Sources:

- Natural Conditions - Water
- Quality Standards Use
- Attainability Analyses
- Needed

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E23R-15-DO**      **The Big Swamp**

Location: The Big Swamp from its headwaters downstream to Cat Point Creek.

City / County: Richmond Co.      Westmoreland Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: Oxygen, Dissolved / 5C

During the 2006 cycle, The Big Swamp was assessed as not supporting the Aquatic Life Use based on a dissolved oxygen violation rate of 2/15 at 3-TBS003.39, which is located at Route 642.

This segment is nested within VAP-E23R-01.

The Big Swamp	Estuary	Reservoir	River
<b>Aquatic Life</b>	(Sq. Miles)	(Acres)	(Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			<b>6.58</b>

Sources:

- Natural Conditions - Water
- Quality Standards Use
- Attainability Analyses
- Needed

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E23R-16-BEN** Church Swamp

Location: Church Swamp from its headwaters to its tidal limit at Hoskins Creek

City / County: Essex Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

During the 2008 cycle, Church Swamp was assessed as not supporting the Aquatic Life Use due to impairment of the benthic community at freshwater probabilistic monitoring station 3-CRC001.38.

Church Swamp	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			<b>3.23</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E23R-17-PH**      **Hoskins Creek UT (XGX)**

Location: Headwaters to mouth at Hoskins Creek.

City / County: Essex Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: pH / 5C

During the 2008 cycle, unnamed tributary XGX was assessed as not supporting of the Aquatic Life Use due to a pH violation rate of 7/8 at 3-XGX000.04.

Hoskins Creek UT (XGX)	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
pH - Total Impaired Size by Water Type:			<b>2.44</b>

### Sources:

- Natural Conditions - Water
- Quality Standards Use
- Attainability Analyses
- Needed

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E23R-18-PH**      Hoskins Creek UT (XGY)

Location: Headwaters to mouth at Hoskins Creek.

City / County: Essex Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: pH / 5C

During the 2008 cycle, unnamed tributary XGY was assessed as not supporting of the Aquatic Life Use due to a pH violation rate of 4/8 at 3-XGY000.23.

Hoskins Creek UT (XGY)	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
pH - Total Impaired Size by Water Type:			<b>1.42</b>

### Sources:

- Natural Conditions - Water
- Quality Standards Use
- Attainability Analyses
- Needed

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E24E-01-SF** Totuskey Creek/Richardson Creek/Rappahannock River

Location: As described in VDH Notice and Description of Shellfish Condemnation 025-071A, 10/4/2005

City / County: Richmond Co.

Use(s): Shellfishing

Cause(s) /  
VA Category: Fecal Coliform / 5B

VDH Shellfish Condemnation 025-071A, 10/4/2005

Previous shellfish condemnations have included Totuskey and Richardson Creeks (separately or combined). The streams have been impaired since the 1998 cycle. However, in 2006 the segments, as combined under 025-071A, 12/22/2004, extended into the Rappahannock mainstem. The condemnation was further extended in the 2008 cycle.

Totuskey Creek/Richardson Creek/Rappahannock River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	1.557		

Sources:

Municipal Point Source      Source Unknown  
Discharges

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E24E-02-BAC** Totuskey Creek

Location: The tidal portions of Totuskey Creek.

City / County: Richmond Co.

Use(s): Recreation

Cause(s) /  
VA Category: Enterococcus / 5A

Totuskey Creek was previously assessed as not supporting the Recreation Use because of fecal coliform violations at the Route 3 bridge (3-TOT005.11). During the 2006 cycle, the segment remained impaired for fecal coliform and enterococci was added as an impairment with a violation rate of 3/9. During the 2008 cycle the impairment converted solely to enterococci due to a violation rate of 7/18. The bacteria TMDL is due in 2014.

Totuskey Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Enterococcus - Total Impaired Size by Water Type:			<b>1.067</b>

Sources:

Municipal Point Source      Source Unknown  
Discharges



# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E24E-02-CHLR**      **Totuskey Creek**

Location: The tidal portions of Totuskey Creek.

City / County: Richmond Co.

Use(s): Aquatic Life                      Wildlife

Cause(s) /  
VA Category: Chloride / 5C

Totuskey Creek was assessed as not supporting of the Aquatic Life and Wildlife Uses in the 2004 cycle based on chloride violations at 3-TOT005.11. The segment remains impaired in the 2008 cycle. The chloride TMDL is due in 2016.

Totuskey Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Chloride - Total Impaired Size by Water Type:	<b>1.067</b>		
Totuskey Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Wildlife</b>			
Chloride - Total Impaired Size by Water Type:	<b>1.067</b>		

- Sources:
- Natural Conditions - Water
  - Quality Standards Use
  - Attainability Analyses
  - Needed

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E24E-02-EBTOX**      **Totuskey Creek**

Location: The tidal portions of Totuskey Creek.

City / County: Richmond Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Sediment Bioassays for Estuarine and Marine Water / 5A

During the 2006 cycle, estuarine probabilistic monitoring was conducted through the Coastal 2000 program at 3-TOT007.84 and 3-TOT004.92. The data was assessed by DEQ-CO through the Weight of Evidence approach. Although both stations showed benthic alteration, the alteration at station 3-TOT007.84 was assessed as Category 5A for toxics. The TMDL is due in 2018.

Totuskey Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Sediment Bioassays for Estuarine and Marine Water - Total Impaired Size by Water Type:	<b>1.067</b>		

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E24E-03-SF**      **Garretts Marina**

Location: As described in VDH Notice and Description of Shellfish Condemnation 026-181A, 1/20/2006

City / County: Essex Co.

Use(s): Shellfishing

Cause(s) /  
VA Category: Fecal Coliform / 5B

VDH-DSS Shellfish Condemnation 026-181A,1/20/2006

Garrett's Marina has been impaired of the Shellfish Consumption Use since the 1998 cycle. During the 2008 cycle, the condemnation expanded and incorporated previous condemnation M271, which had been seasonally condemned (observed effects).

Garretts Marina	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	0.029		

Sources:

Marina/Boating Sanitary On-      Source Unknown  
vessel Discharges

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E24E-04-SF**      **Rappahannock River: Mark Haven Beach**

Location: As described in VDH Notice and Description of Shellfish Condemnation 026-181B, 1/20/2006

City / County: Essex Co.

Use(s): Shellfishing

Cause(s) /  
VA Category: Fecal Coliform / 5B

VDH-DSS Shellfish Condemnation 026-181B, 1/20/2006

Segment expanded in the 2008 cycle.

Rappahannock River: Mark Haven Beach	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Shellfishing</b>			
Fecal Coliform - Total Impaired Size by Water Type:	<b>0.014</b>		

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E24R-01-BAC** Totuskey Creek

Location: The free flowing portion of Totuskey Creek.

City / County: Richmond Co.

Use(s): Recreation

Cause(s) /  
VA Category: Fecal Coliform / 5A

During the 2006 cycle, the nontidal portion of Totuskey Creek was assessed as not supporting the Recreation Use due to E. coli violations at 3-TOT009.95, which is located at the Route 619 bridge. During the 2008 cycle, the violation rate was 2/11.

Totuskey Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			6.23

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E24R-02-BAC** Totuskey Creek

Location: The free flowing portion of Totuskey Creek.

City / County: Richmond Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

During the 2006 cycle, the nontidal portion of Totuskey Creek was assessed as not supporting the Recreation Use due to E. coli violations at 3-TOT009.95, which is located at the Route 619 bridge. During the 2008 cycle, the violation rate was 2/11.

Totuskey Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>8.01</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E24R-03-BAC**      **Muddy Gut**

Location: Headwaters to mouth at Rappahannock River.

City / County: Essex Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

During the 2008 cycle, Muddy Gut was assessed as impaired of the Recreation Use based on an E. coli violation rate of 5/10 at the Route 607 bridge (3-MUG000.96).

Muddy Gut	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			2.47

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E24R-03-PH**      **Muddy Gut**

Location: Headwaters to mouth at Rappahannock River.

City / County: Essex Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: pH / 5C

During the 2008 cycle, Muddy Gut was assessed as impaired of the Aquatic Life Use based on a pH violation rate of 4/10 at the Route 607 bridge (3-MUG000.96).

Muddy Gut	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
pH - Total Impaired Size by Water Type:			<b>2.47</b>

### Sources:

- Natural Conditions - Water
- Quality Standards Use
- Attainability Analyses
- Needed



# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E25E-01-SF**      **Lagrange Creek**

Location: As described in VDH Notice and Description of Shellfish Condemnation 127, 6/11/1996

City / County: Middlesex Co.

Use(s): Shellfishing

Cause(s) /  
VA Category: Fecal Coliform / 4A

Portion of VDH Shellfish Condemnation 028-127, 2/25/2004

A portion of Lagrange Creek was assessed in 1998 as not supporting the Shellfish Consumption Use based on VDH-DSS Condemnation 127, 6/11/1996. The TMDL for this original portion was completed and approved by EPA on 11/15/2005. The segment should be classified as Cat. 4A.

Lagrange Creek	Estuary	Reservoir	River
<b>Shellfishing</b>	(Sq. Miles)	(Acres)	(Miles)
Fecal Coliform - Total Impaired Size by Water Type:			
	<b>0.596</b>		

Sources:

Non-Point Source

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E25E-02-BAC** Robinson Creek

Location: As described in VDH Notice and Description of Shellfish Condemnation 177, 5/28/1997

City / County: Middlesex Co.

Use(s): Recreation

Cause(s) /  
VA Category: Fecal Coliform / 5A

In 2002, the segment was assessed as not supporting the Recreation Use due to fecal coliform violations at the end of Route 680 (3-ROS001.35). The violation rate in the 2004 cycle was 4/20. There has been no additional monitoring since 2001. Although the fecal coliform criteria for shellfish is more stringent than that for the Recreation Use, the report did not specifically mention the Recreation impairment, therefore the segment is still considered Category 5A for the Recreation Use.

Robinson Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Fecal Coliform - Total Impaired Size by Water Type:			
			<b>0.205</b>

Sources:

Non-Point Source

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E25E-02-SF** Robinson Creek

Location: As described in VDH Notice and Description of Shellfish Condemnation 177, 5/28/1997

City / County: Middlesex Co.

Use(s): Shellfishing

Cause(s) /  
VA Category: Fecal Coliform / 4A

Portion of VDH Shellfish Condemnation 028-177, 2/25/2004

The upstream portion of Robinson Creek was assessed in 1998 as not supporting the Shellfish Consumption Use based on VDH-DSS Condemnation 177, 5/28/1997. The TMDL for this original portion was completed and approved by EPA on 11/15/2005. The segment should be classified as Cat. 4A.

Robinson Creek	Estuary	Reservoir	River
Shellfishing	(Sq. Miles)	(Acres)	(Miles)
Fecal Coliform - Total Impaired Size by Water Type:	0.205		

Sources:

Non-Point Source

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E25E-03-CHLR**      **Mulberry Creek**

Location: The tidal Mulberry Creek

City / County: Lancaster Co.

Use(s): Aquatic Life      Wildlife

Cause(s) /  
VA Category: Chloride / 5A      Chloride / 5C

Mulberry Creek has been assessed as impaired of the Aquatic Life Use based on chloride violations at 3-MUB000.46, which is located at the end of Rt. 748.

Mulberry Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Chloride - Total Impaired Size by Water Type:	<b>0.248</b>		
Mulberry Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Wildlife</b>			
Chloride - Total Impaired Size by Water Type:	<b>0.248</b>		

Sources:

- Natural Conditions - Water
- Quality Standards Use
- Attainability Analyses
- Needed

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E25E-04-SF**      **Urbanna Creek**

Location: As described in VDH Notice and Description of Shellfish Condemnation 029-042A, 2/14/2006

City / County: Middlesex Co.

Use(s): Shellfishing

Cause(s) /  
VA Category: Fecal Coliform / 4A

VDH Condemnation 029-042A, 2/14/2006

The segment was previously assessed as impaired of the Shellfish Consumption Use based on VDH-DSS Shellfish Condemnation 042A, 9/17/1993. The TMDL was completed and approved by EPA on 11/15/2005 and the segment should be assessed as Cat. 4A.

Urbanna Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Shellfishing</b>			
Fecal Coliform - Total Impaired Size by Water Type:		<b>0.238</b>	

Sources:

Municipal Point Source      Non-Point Source  
Discharges

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E25E-05-BAC** Farnham Creek

Location: The boundaries of the condemned area are described in VDH Notice and Description of Shellfish Area Condemnation 024-070A, 1/19/2006.

City / County: Richmond Co.

Use(s): Recreation

Cause(s) /  
VA Category: Fecal Coliform / 5A

In 2002, the segment was assessed as not supporting the Recreation Use due to fecal coliform violations at 3-FAM002.62, which is located at the Route 608 bridge. During the 2006 cycle, the violation rate was 3/18. The TMDL is due in 2014.

During the 2008 cycle, the bacteria TMDL for shellfish condemnations in Farnham Creek was completed during the 2008 cycle and was approved by EPA on 8/2/2006. Bacteria was allocated to nonpoint sources. However, the report did not specifically mention the Recreation Use impairment, therefore the segment is still considered a Category 5A water for the Recreation Use.

Farnham Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			
	0.421		

Sources:

Non-Point Source

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E25E-05-CHLR**      **Farnham Creek**

Location: The boundaries of the condemned area are described in VDH Notice and Description of Shellfish Area Condemnation 024-070A, 1/19/2006.

City / County: Richmond Co.

Use(s): Aquatic Life                      Wildlife

Cause(s) /  
VA Category: Chloride / 5C

In the 2004 cycle, Farnham Creek was assessed as impaired of the Aquatic Life and Wildlife Uses due to chloride violations at 3-FAM002.62. The chloride TMDL is due in 2016.

Farnham Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Chloride - Total Impaired Size by Water Type:	<b>0.421</b>		
Farnham Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Wildlife</b>			
Chloride - Total Impaired Size by Water Type:	<b>0.421</b>		

Sources:

- Natural Conditions - Water
- Quality Standards Use
- Attainability Analyses
- Needed

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E25E-05-SF** Farnham Creek

Location: The boundaries of the condemned area are described in VDH Notice and Description of Shellfish Area Condemnation 024-070A, 1/19/2006.

City / County: Richmond Co.

Use(s): Shellfishing

Cause(s) /  
VA Category: Fecal Coliform / 4A

Farnham Creek has been assessed as not supporting the Shellfishing Use since 1998 due to VDH-DSS Shellfish Condemnation 070, 10/17/2000. The TMDL was due in 2010.

During the 2008 cycle, the bacteria TMDL for shellfish condemnations in Farnham Creek was completed during the 2008 cycle and was approved by EPA on 8/2/2006. Bacteria was allocated to nonpoint sources. The segment is considered a Category 4A water for the Shellfish Consumption Use.

Farnham Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:		0.421	

Sources:

Non-Point Source



# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E25E-07-SF** Parrotts Creek

Location: As described in VDH Notice and Description of Shellfish Condemnation 090, 4/27/1989

City / County: Middlesex Co.

Use(s): Shellfishing

Cause(s) /  
VA Category: Fecal Coliform / 4A

Portion of VDH shellfish condemnation 027-090A, 8/16/2006

Condemnation expanded in the 2008 cycle.

The Shellfish TMDL report for "Rappahannock River: Mud and Parrotts Creeks" was approved by EPA on 11/15/2005. The TMDL addressed this 1998 portion of the current condemnation, therefore, the shellfish impairment is considered Cat. 4A. The downstream portion of the Parrotts Creek condemnation is included in fact sheet E25-27-SF.

Parrotts Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:			
	0.153		

Sources:

Non-Point Source

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E25E-08-SF**      **Weeks Creek**

Location: As described in VDH Notice and Description of Shellfish Condemnation 027-202A, 8/16/2006

City / County: Middlesex Co.

Use(s): Shellfishing

Cause(s) /  
VA Category: Fecal Coliform / 5B

Portion of VDH Shellfish Condemnation 027-202A, 8/16/2006

This segment is a portion of SFC 027-202A, 8/16/2006 during the 2008 cycle. Although a TMDL was completed for Weeks Creek and approved by EPA on 11/15/2005, the TMDL only covered the original upstream 1998 impairment (see E25E-09-SF). The TMDL for this downstream portion is due in 2018.

The size of the closure was reduced in the 2008 cycle.

Weeks Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:			
	0.034		

Sources:

Non-Point Source

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E25E-09-SF**      **Weeks Creek**

Location: As described in VDH Notice and Description of Shellfish Condemnation 202, 10/8/1996

City / County: Middlesex Co.

Use(s): Shellfishing

Cause(s) /  
VA Category: Fecal Coliform / 4A

Portion of VDH Shellfish Condemnation 027-202A, 8/16/2006

The segment was assessed as not supporting of the Shellfish Use during the 1998 cycle due to VDH shellfish condemnation 202, 10/8/1996. This segment is now a portion of SFC 027-202A, 8/16/2006. The TMDL was completed for the original 1998 segment during the 2006 cycle and approved by EPA on 11/15/2005. The segment was categorized as Cat. 4A for Shellfish during the 2006 cycle, however the EPA TMDL ID was not available at the time of assessment. The ID became available during the 2008 cycle and the segment was migrated.

Weeks Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:			
	0.123		

Sources:

Non-Point Source

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E25E-10-SF**      **Deep Creek**

Location: As described in VDH Notice and Description of Shellfish Condemnation 121, 11/16/1994

City / County: Lancaster Co.

Use(s): Shellfishing

Cause(s) /  
VA Category: Fecal Coliform / 4A

Portion of VDH-DSS Shellfish Condemnation 023-121B, 8/17/2005

A 0.0491 sq. mi. portion of Deep Creek was assessed as impaired of the Shellfish Consumption Use on the 1998 303(d) list due to VDH condemnation 121, 11/16/1994. The condemnation began expanding in the 2002 cycle and is currently 0.22 sq. mi. as described in VDH condemnation 023-121B, 8/17/2005. However, the shellfish TMDL, which was completed during the 2008 cycle and was approved by EPA on 8/2/2006, only addressed the 1998 impairment. The original area is considered a Category 4A water; the TMDL for the downstream portion is due in 2014 (see fact sheet E25E-10-SF2).

Deep Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:			
	0.049		

Sources:

Non-Point Source

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E25E-10-SF2**      **Deep Creek**

Location: Portion of VDH Notice and Description of Shellfish Condemnation 023-121B, 8/17/2005 not included in 121, 11/16/1994  
City / County: Lancaster Co.

Use(s): Shellfishing  
Cause(s) /  
VA Category: Fecal Coliform / 5B

Portion of VDH-DSS Shellfish Condemnation 023-121B, 8/17/2005

A 0.0491 sq. mi. portion of Deep Creek was assessed as impaired of the Shellfish Consumption Use on the 1998 303(d) list due to VDH condemnation 121, 11/16/1994. The condemnation began expanding in the 2002 cycle and is currently 0.22 sq. mi. as described in VDH condemnation 023-121B, 8/17/2005. However, the shellfish TMDL, which was completed during the 2008 cycle and was approved by EPA on 8/2/2006, only addressed the 1998 impairment (see fact sheet E25E-10-SF). The TMDL for this downstream portion is due in 2014.

Deep Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:			
	0.170		

Sources:  
Non-Point Source

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

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## Rappahannock River Basin

Cause Group Code **E25E-11-BAC**      **Lancaster Creek**

Location: As described in VDH Notice and Description of Shellfish Condemnation 023-120A, 8/14/1995

City / County: Lancaster Co.      Richmond Co.

Use(s): Recreation

Cause(s) /

VA Category: Fecal Coliform / 5A

In 2004, the segment was assessed as not supporting the Recreation Use due to a fecal coliform violation rate of 2/18 at 3-LAN002.81, located at the end of Route 1105. There has been no additional fecal coliform or enterococci monitoring since 2001. The TMDL is due in 2016. During the 2008 cycle, the segment was adjusted to be coincident with the 1995 condemnation.

Although the TMDL Report for Shellfish Areas Listed due to Bacterial Contamination for Lancaster Creek was completed during the 2008 cycle and was approved by EPA on 8/2/2006, the report did not specifically mention a Recreation use impairment. Therefore the segment will still be considered Category 5A for the Recreation Use.

---

Lancaster Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Fecal Coliform - Total Impaired Size by Water Type:		<b>0.270</b>	

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Sources:

Non-Point Source

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E25E-11-SF**      **Lancaster Creek**

Location: As described in VDH Notice and Description of Shellfish Condemnation 023-120A, 8/14/1995

City / County: Lancaster Co.      Richmond Co.

Use(s): Shellfishing

Cause(s) /  
VA Category: Fecal Coliform / 4A

Portion of VDH shellfish condemnation 020-120B, 8/17/2005

A portion of Lancaster Creek was assessed as impaired of the Shellfish Use in the 1998 cycle due to VDH Shellfish Condemnation 120A, 8/14/1995. The TMDL Report for Shellfish Areas Listed due to Bacterial Contamination for Lancaster Creek was completed during the 2008 cycle and was approved by EPA on 8/2/2006. Bacteria was allocated to nonpoint sources. Although the condemnation on Lancaster Creek has extended downstream since the 1998 cycle, only the original impairment was included in the TMDL. This segment will be considered Category 4A for the Shellfish Use.

Lancaster Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:		0.270	

Sources:

Non-Point Source

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E25E-11-SF2**

**Lancaster Creek**

Location: Portion of VDH Notice and Description of Shellfish Condemnation 023-120B, 8/17/2005 not included in condemnation 023-120A, 8/14/1995

City / County: Lancaster Co.

Richmond Co.

Use(s): Shellfishing

Cause(s) /

VA Category: Fecal Coliform / 5B

Portion of VDH shellfish condemnation 020-120B, 8/17/2005

Segment expanded in the 2008 cycle.

A portion of Lancaster Creek was assessed as impaired of the Shellfish Use in the 1998 cycle due to VDH Shellfish Condemnation 120A, 8/14/1995. The TMDL Report for Shellfish Areas Listed due to Bacterial Contamination for Lancaster Creek was completed during the 2008 cycle and was approved by EPA on 8/2/2006. Bacteria was allocated to nonpoint sources. Although the condemnation on Lancaster Creek has extended downstream since the 1998 cycle, only the original impairment was included in the TMDL. Since the segment was first expanded downstream in the 2002 cycle, the TMDL for this downstream segment will be due in 2014.

Lancaster Creek

**Shellfishing**

Estuary  
(Sq. Miles)

Reservoir  
(Acres)

River  
(Miles)

Fecal Coliform - Total Impaired Size by Water Type:

**0.259**

Sources:

Non-Point Source

Source Unknown



# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E25E-12-SF** Morattico Creek

Location: As described in VDH Notice and Description of Shellfish Condemnation 023-120A, 8/17/2005

City / County: Richmond Co.

Use(s): Shellfishing

Cause(s) /  
VA Category: Fecal Coliform / 5B

VDH-DSS Shellfish Condemnation 023-120A, 8/17/2005

Segment expanded slightly in the 2008 cycle.

(Note: In previous cycles, the Morattico Creek Shellfish impairment was mistakenly given a 2010 TMDL due date. During the 2008 cycle, it was determined that Morattico Creek was not listed on the 1998 303(d) list. The initial list date was corrected to 2002 and the TMDL due date was corrected to 2014.)

Morattico Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:			
	0.342		

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E25E-13-SF** Mulberry Creek

Location: As described in VDH Notice and Description of Shellfish Condemnation 120B, 8/14/1995

City / County: Lancaster Co.

Use(s): Shellfishing

Cause(s) /  
VA Category: Fecal Coliform / 4A

Portion of VDH shellfish condemnation 023-121A, 8/17/2005

A portion of Mulberry Creek was included on the 1998 303(d) list due to VDH Shellfish condemnation 120B, 8/14/1995. The segment has been extended several times and is currently included under condemnation 023-121A, 8/17/2005. The TMDL for Shellfish Areas Listed due to Bacterial Contamination for Mulberry Creek was completed during the 2008 cycle and was approved by EPA on 8/2/2006. However, the TMDL only addressed the fecal coliform impairment within the 1998 portion of Mulberry Creek. This upstream portion will be considered Category 4A for Shellfish Use. The TMDLs for the downstream area will be due by 2014 (Shellfish Use) and 2016 (Recreation Use.) - see fact sheet E25E-26.

Mulberry Creek	Estuary	Reservoir	River
Shellfishing	(Sq. Miles)	(Acres)	(Miles)
Fecal Coliform - Total Impaired Size by Water Type:			
0.148			

Sources:

Non-Point Source

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E25E-14-SF**      **Beach Creek**

Location: As described in VDH Notice and Description of Shellfish Condemnation 116, 1/7/1992

City / County: Lancaster Co.

Use(s): Shellfishing

Cause(s) /  
VA Category: Fecal Coliform / 4A

Portion of VDH shellfish condemnation 022-116A, 12/27/2004

A portion of Beach Creek was assessed as impaired of the Shellfish Use in the 1998 cycle based on VDH Shellfish Condemnation 116, 1/7/1992. Although the condemnation later expanded on 12/27/2004, the bacteria TMDL, which was approved by EPA on 8/2/2006, only addressed the 1998 condemnation. The original area will be considered Category 4A. The TMDL for the downstream area will be due in 2018 since it first expanded during the 2006 cycle (see fact sheet E25E-14-SF2).

Beach Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:			
			0.070

Sources:

Non-Point Source

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E25E-14-SF2**      **Beach Creek**

Location: The portion of VDH Notice and Description of Shellfish Condemnation 022-116A, 12/27/2004 that was not included in the 1/7/1992 condemnation

City / County: Lancaster Co.

Use(s): Shellfishing

Cause(s) /  
VA Category: Fecal Coliform / 5B

Portion of VDH-DSS Shellfish Condemnation 022-116A, 12/27/2004

Expanded in 2006

A portion of Beach Creek was assessed as impaired of the Shellfish Use in the 1998 cycle based on VDH Shellfish Condemnation 116, 1/7/1992. Although the condemnation later expanded on 12/27/2004, the bacteria TMDL, which was approved by EPA on 8/2/2006, only addressed the 1998 condemnation (see fact sheet E25E-14-SF2). The TMDL for the downstream area will be due in 2018 since it first expanded during the 2006 cycle.

Beach Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:		0.039	

Sources:

Non-Point Source

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E25E-15-SF**      **Greenvale Creek**

Location: As described in VDH Notice and Description of Shellfish Condemnation 094, 11/7/1994

City / County: Lancaster Co.

Use(s): Shellfishing

Cause(s) /  
VA Category: Fecal Coliform / 4A

Portion of VDH-DSS condemnation 022-094A, 10/6/2005

During the 2008 cycle, the bacteria TMDL for the Shellfish Impairment on Greenvale Creek was developed. The TMDL was approved by EPA on 8/2/2006. However, the segment was also expanded. The TMDL only addressed the original portion, which will be considered Category 4A.

Greenvale Creek	Estuary	Reservoir	River
Shellfishing	(Sq. Miles)	(Acres)	(Miles)
Fecal Coliform - Total Impaired Size by Water Type:		0.084	

Sources:

Non-Point Source

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E25E-16-CHLR**      **Lancaster and Morattico Creeks**

Location: The tidal portion of Lancaster Creek, includes Morattico Creek

City / County: Lancaster Co.      Richmond Co.

Use(s): Aquatic Life      Wildlife

Cause(s) /  
VA Category: Chloride / 5C

Lancaster and Morattico Creeks are assessed as not supporting of the Aquatic Life and Wildlife Uses based on chloride violations at multiple stations.

Lancaster and Morattico Creeks	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Chloride - Total Impaired Size by Water Type:	<b>1.950</b>		
Lancaster and Morattico Creeks	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Wildlife</b>			
Chloride - Total Impaired Size by Water Type:	<b>1.950</b>		

Sources:

- Natural Conditions - Water
- Quality Standards Use
- Attainability Analyses
- Needed

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E25E-20-SF** Harry George Creek

Location: As described in VDH Notice and Description of Shellfish Condemnation 027-202B, 8/16/2006

City / County: Middlesex Co.

Use(s): Shellfishing

Cause(s) /  
VA Category: Fecal Coliform / 5B

VDH Shellfish Condemnation 027-202B, 8/16/2006

Harry George Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:			
	0.094		

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E25E-21-SF**      **Lagrange Creek**

Location: As described in VDH Notice and Description of Shellfish Condemnation 028-127, 2/25/2004, as extended from the 6/11/1996 condemnation

City / County: Middlesex Co.

Use(s): Shellfishing

Cause(s) /  
VA Category: Fecal Coliform / 5B

Portion of VDH Shellfish Condemnation 127, 2/25/2004

The upstream portion of Lagrange Creek was assessed in 1998 as not supporting the Shellfish Consumption Use based on VDH-DSS Condemnation 127, 6/11/1996. The TMDL for this original portion was completed and approved by EPA on 11/15/2005. During the 2006 cycle, however, the condemnation was extended downstream. The TMDL for this segment is due in 2018.

Lagrange Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:			
	0.056		

Sources:

Non-Point Source



# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E25E-22-SF** Robinson Creek

Location: As described in VDH Notice and Description of Shellfish Condemnation 028-177, 2/25/2004, as extended from the 5/28/1997 condemnation

City / County: Middlesex Co.

Use(s): Shellfishing

Cause(s) /  
VA Category: Fecal Coliform / 5B

Portion of VDH Shellfish Condemnation 028-177, 2/25/2004

The upstream portion of Robinson Creek was assessed in 1998 as not supporting the Shellfish Consumption Use based on VDH-DSS Condemnation 177, 5/28/1997. The TMDL for this original portion was completed and approved by EPA on 11/15/2005. During the 2006 cycle, however, the condemnation was extended downstream. The TMDL for this segment is due in 2018.

Robinson Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:			
	0.266		

Sources:

Non-Point Source

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E25E-23-SF** Rappahannock River

Location: Described in VDH Notice and Description of Shellfish Condemnation Number 024-070B, 1/19/2006

City / County: Richmond Co.

Use(s): Shellfishing

Cause(s) /  
VA Category: Fecal Coliform / 5B

VDH-DSS Shellfish Condemnation 024-070B, 1/19/2006

Rappahannock River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:		0.005	

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E25E-24-SF**      **Lancaster Creek**

Location: Described in VDH Notice and Description of Shellfish Condemnation Number 023-120C, 8/17/2005

City / County: Richmond Co.

Use(s): Shellfishing

Cause(s) /  
VA Category: Fecal Coliform / 5B

VDH shellfish condemnation 023-120C, 8/17/2005

(Previously seasonally condemned; downgraded in the 2008 cycle.)

Lancaster Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Shellfishing</b>			
Fecal Coliform - Total Impaired Size by Water Type:			
	<b>0.023</b>		

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E25E-25-SF** Mulberry Creek

Location: Described in VDH Notice and Description of Shellfish Condemnation Number 023-121C, 8/17/2005

City / County: Lancaster Co.

Use(s): Shellfishing

Cause(s) /  
VA Category: Fecal Coliform / 5B

VDH shellfish condemnation 023-121C, 8/17/2005

Mulberry Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:		0.008	

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E25E-26-BAC**      **Mulberry Creek**

Location: As described in VDH Notice and Description of Shellfish Condemnation 023-121A, 8/17/2005

City / County: Lancaster Co.

Use(s): Recreation

Cause(s) /  
VA Category: Fecal Coliform / 5A

In 2004, the segment was assessed as not supporting the Recreation Use due to a fecal coliform violation rate of 2/18 at 3-MUB000.46, located at the end of Route 748. There has been no additional monitoring since 2001. The TMDL is due in 2016.

A portion of this impairment was addressed in the TMDL for Shellfish Areas Listed due to Bacterial Contamination for Mulberry Creek, which was completed during the 2008 cycle and was approved by EPA on 8/2/2006. However, the TMDL only addressed the shellfish impairment within the 1998 portion of Mulberry Creek. Therefore, the Recreation Use is still considered Category 5A.

Mulberry Creek	Estuary	Reservoir	River
Recreation	(Sq. Miles)	(Acres)	(Miles)
Fecal Coliform - Total Impaired Size by Water Type:			
0.187			

Sources:

Non-Point Source      Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E25E-26-SF** Mulberry Creek

Location: Portion of VDH Notice and Description of Shellfish Condemnation 023-121A, 8/17/2005 not included in 120B, 8/14/1995

City / County: Lancaster Co.

Use(s): Shellfishing

Cause(s) /  
VA Category: Fecal Coliform / 5B

Portion of VDH shellfish condemnation 023-121A, 8/17/2005

A portion of Mulberry Creek was included on the 1998 303(d) list due to VDH Shellfish condemnation 120B, 8/14/1995. The segment has been extended several times and is currently included under condemnation 023-121A, 8/17/2005. The TMDL for Shellfish Areas Listed due to Bacterial Contamination for Mulberry Creek was completed during the 2008 cycle and was approved by EPA on 8/2/2006 (see fact sheet E25E-13). However, the TMDL only addressed the fecal coliform impairment within the 1998 portion of Mulberry Creek. The TMDL for this downstream area will be due by 2014.

Mulberry Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:			
	0.039		

Sources:

Non-Point Source Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E25E-27-SF**      **Parrotts Creek**

Location: Portion of VDH Notice and Description of Shellfish Condemnation 027-090, 8/16/2006 not included in 90, 4/27/1989

City / County: Middlesex Co.

Use(s): Shellfishing

Cause(s) /  
VA Category: Fecal Coliform / 5B

Portion of VDH shellfish condemnation 027-090A, 8/16/2006

The Shellfish TMDL report for "Rappahannock River: Mud and Parrotts Creeks" was approved by EPA on 11/15/2005. The TMDL addressed this 1998 portion of the current condemnation, therefore, the upstream shellfish impairment is considered Cat. 4A. The TMDL for the downstream portion of the Parrotts Creek condemnation is due in 2020.

Parrotts Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing	Fecal Coliform - Total Impaired Size by Water Type: <b>0.031</b>		

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E25E-28-SF** Paynes Creek

Location: Described in VDH Notice and Description of Shellfish Condemnation Number 022-114A, 4/27/1989

City / County: Lancaster Co.

Use(s): Shellfishing

Cause(s) /  
VA Category: Fecal Coliform / 5B

VDH-DSS Shellfish Condemnation 022-114A, 4/27/1989

On previous summaries Paynes Creek was shown to be non-productive. However, during the 2008 cycle, the area was determined to be condemned. The TMDL will be due in 2020.

Paynes Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:			
			0.046

Sources:

Source Unknown



# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E25E-29-SF**      **Greenvale Creek**

Location: The portion of VDH Notice and Description of Shellfish Condemnation 022-094A, 10/6/2005 that is not included in the 11/7/1994 condemnation

City / County: Lancaster Co.

Use(s): Shellfishing

Cause(s) /  
VA Category: Fecal Coliform / 5B

Portion of VDH-DSS condemnation 022-094A, 10/6/2005

The downstream portion of Greenvale Creek was previously classified as seasonally condemned, therefore it was fully supporting with observed effects. During the 2008 cycle, the upstream condemnation was expanded and incorporated the downstream seasonally condemned section, as well as some additional area downstream. The bacteria TMDL for the Shellfish Impairment on Greenvale Creek was developed. The TMDL, which was approved by EPA on 8/2/2006, only addressed the original portion. Therefore this downstream segment will remain impaired with a TMDL due date of 2020.

Greenvale Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:		0.053	

Sources:

Non-Point Source

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E25R-01-DO**      **Mud Creek**

Location: The nontidal portion of Mud Creek.

City / County: Middlesex Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: Oxygen, Dissolved / 5C

Mud Creek was initially assessed as not supporting the Aquatic Life Use support goal in 2004 based on pH violations at 3-MUC002.31, located at the Route 648 bridge.

During the 2006 cycle, it was determined that the station was mistakenly classified as tidal during the 2004 cycle. Dissolved oxygen was added as an impairing cause in 2006 based on violations at 3-MUC002.31. However, although the impairment was only first assigned to this segment in 2006, the TMDL due date is 2016.

During the 2008 cycle, the DO violation rate was 4/13.

Mud Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Oxygen, Dissolved - Total Impaired Size by Water Type:			<b>2.61</b>

Sources:

Natural Conditions - Water  
Quality Standards Use  
Attainability Analyses  
Needed

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E25R-01-PH**      **Mud Creek**

Location: The nontidal portion of Mud Creek.

City / County: Middlesex Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: pH / 5C

Mud Creek was initially assessed as not supporting the Aquatic Life Use support goal in 2004 based on pH violations at 3-MUC002.31, located at the Route 648 bridge.

During the 2008 cycle, the DO violation rate was 4/13 and the pH violation rate was 11/13.

Mud Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
pH - Total Impaired Size by Water Type:			<b>2.61</b>

Sources:

- Natural Conditions - Water
- Quality Standards Use
- Attainability Analyses
- Needed

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E25R-02-BAC**      **Lagrange Creek**

Location: Lagrange Creek from the headwaters to the extent of tide at approximately river mile 3.75.

City / County: Middlesex Co.

Use(s): Recreation

Cause(s) /  
VA Category: Fecal Coliform / 5A

Lagrange Creek was assessed in 2004 as not supporting of the Recreation Use support goal based on a fecal coliform violation rate of 3/20 recorded at the Route 610 bridge (3-LGG004.54). There has been no additional monitoring since 2001.

Lagrange Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Fecal Coliform - Total Impaired Size by Water Type:			<b>2.45</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E25R-17-DO**      **Masons Mill Swamp**

Location: Masons Mill Swamp from its headwaters downstream to its tidal limit.

City / County: Middlesex Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: Oxygen, Dissolved / 5C

During previous cycles, Masons Mill Swamp was mistakenly assessed as a tidal water. The creek was assessed as not supporting of the Aquatic Life Use for dissolved oxygen since the 2006 cycle because it was thought to be a part of the mesohaline portion of the Rappahannock; the TMDL had a 2010 due date because of the Bay Overlist.

However, during the 2008 cycle, it was determined that station 3-MAO000.62 is on the free flowing section of Masons Mill Swamp. The stream should remain impaired for dissolved oxygen due to a violation rate of 4/13. The dissolved oxygen TMDL due date will be changed to 2018.

Masons Mill Swamp	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Oxygen, Dissolved - Total Impaired Size by Water Type:			<b>3.32</b>

Sources:

Natural Conditions - Water  
Quality Standards Use  
Attainability Analyses  
Needed

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E25R-17-PH**      **Masons Mill Swamp**

Location: Masons Mill Swamp from its headwaters to its tidal limit.

City / County: Middlesex Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: pH / 5C

During previous cycles, Masons Mill Swamp was mistakenly assessed as a tidal water. The segment was assessed as not supporting the Aquatic Life Use based on pH violations at 3-MAO000.62 (Route 604 bridge). The segment was expanded in 2006. However, during the 2008 cycle, it was determined that station 3-MAO000.62 is on the free flowing section of Masons Mill Swamp. The stream should remain impaired due to a pH violation rate of 5/13. The pH TMDL continues to be due in 2016.

Masons Mill Swamp	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
pH - Total Impaired Size by Water Type:			<b>3.32</b>

Sources:

- Natural Conditions - Water
- Quality Standards Use
- Attainability Analyses
- Needed

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E26E-01-SF**      **Meachim Creek**

Location: As described in VDH Notice and Description of Shellfish Condemnation 179A, 12/9/1996

City / County: Middlesex Co.

Use(s): Shellfishing

Cause(s) /  
VA Category: Fecal Coliform / 4A

Portion of VDH shellfish condemnation 030-179A, 8/16/2006 (which expanded in the 2006 cycle).

The Shellfish TMDL was completed during the 2006 cycle and approved by EPA on 11/15/2005. The segment should be considered Category 4A for Shellfish, although the EPA TMDL ID was not available at the time of the 2006 assessment. The ID became available during the 2008 cycle and the segment was migrated to Category 4A.

Meachim Creek	Estuary	Reservoir	River
Shellfishing	(Sq. Miles)	(Acres)	(Miles)
Fecal Coliform - Total Impaired Size by Water Type:	0.130		

Sources:

Non-Point Source

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E26E-02-SF**      **Meachim Creek**

Location: As described in VDH Notice and Description of Shellfish Condemnation 030-179B, 12/9/1996

City / County: Middlesex Co.

Use(s): Shellfishing

Cause(s) /  
VA Category: Fecal Coliform / 4A

Portion of VDH shellfish condemnation 030-179A, 8/16/2006

This area was included in the Meachim and Whiting Creek Shellfish TMDL, which was completed during the 2006 cycle and approved by EPA on 11/15/2005. The segment should be considered Category 4A for shellfish, however the EPA TMDL ID was not available at the time of the 2006 assessment. The ID became available during the 2008 cycle and the segment was migrated to Category 4A.

Meachim Creek	Estuary	Reservoir	River
Shellfishing	(Sq. Miles)	(Acres)	(Miles)
Fecal Coliform - Total Impaired Size by Water Type:			
0.032			

Sources:

Non-Point Source



# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E26E-03-SF**      **Taylor Creek**

Location: As described in VDH Notice and Description of Shellfish Condemnation 021-198F, 10/19/2006

City / County: Lancaster Co.

Use(s): Shellfishing

Cause(s) /  
VA Category: Fecal Coliform / 5B

VDH Shellfish Condemnation 021-198F, 10/19/2006

Taylor Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Shellfishing</b>			
Fecal Coliform - Total Impaired Size by Water Type:		<b>0.092</b>	

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E26E-04-SF** Mosquito Creek

Location: As described in VDH Notice and Description of Shellfish Condemnation 018-203, 10/19/2006

City / County: Lancaster Co.

Use(s): Shellfishing

Cause(s) /  
VA Category: Fecal Coliform / 5B

VDH-DSS Shellfish Condemnation 018-203A, 10/19/2006

Expanded in 2006 and 2008 cycles

Mosquito Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:			
			0.042

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E26E-05-SF**      **Myer Creek**

Location: As described in VDH Notice and Description of Shellfish Condemnation 021-198B, 10/19/2006

City / County: Lancaster Co.

Use(s): Shellfishing

Cause(s) /  
VA Category: Fecal Coliform / 5B

VDH shellfish condemnation 021-198B, 10/19/2006

Size adjusted in 2006

Myer Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Shellfishing</b>			
Fecal Coliform - Total Impaired Size by Water Type:			
			<b>0.081</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E26E-06-SF**      **Ewells Prong**

Location: As described in VDH Notice and Description of Shellfish Condemnation 187A, 4/28/1997

City / County: Lancaster Co.

Use(s): Shellfishing

Cause(s) /  
VA Category: Fecal Coliform / 5B

Portion of VDH shellfish condemnation 021-187B, 10/19/2005

Ewells Prong	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Shellfishing</b>			
Fecal Coliform - Total Impaired Size by Water Type:		<b>0.036</b>	

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E26E-07-SF**      **Town Creek**

Location: As described in VDH Notice and Description of Shellfish Condemnation 021-187A, 10/19/2005

City / County: Lancaster Co.

Use(s): Shellfishing

Cause(s) /  
VA Category: Fecal Coliform / 5B

VDH shellfish condemnation 021-187A, 10/19/2005  
Condemnation expanded during the 2008 cycle

Size adjusted in 2006, although area did not change

Town Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Shellfishing</b>			
Fecal Coliform - Total Impaired Size by Water Type:			
	<b>0.057</b>		

Sources:  
Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E26E-08-SF** Senior Creek

Location: As described in VDH Notice and Description of Shellfish Condemnation 132B, 10/19/2005

City / County: Lancaster Co.

Use(s): Shellfishing

Cause(s) /  
VA Category: Fecal Coliform / 5B

VDH shellfish condemnation 021-132B, 10/19/2005

Condemnation size increased during the 2008 cycle.

Senior Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:			
	0.070		

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E26E-09-SF**      **Western Branch Corrotoman River**

Location: As described in VDH Notice and Description of Shellfish Condemnation 132A, 10/19/2005

City / County: Lancaster Co.

Use(s): Shellfishing

Cause(s) /  
VA Category: Fecal Coliform / 5B

VDH shellfish condemnation 021-132A, 10/19/2005

Condemnation expanded during the 2008 cycle.

Western Branch Corrotoman River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Shellfishing</b>			
Fecal Coliform - Total Impaired Size by Water Type:	<b>0.713</b>		

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E26E-10-SF**      **Bush Park Creek**

Location: As described in VDH Notice and Description of Shellfish Condemnation 109, 4/27/1989

City / County: Middlesex Co.

Use(s): Shellfishing

Cause(s) /  
VA Category: Fecal Coliform / 4A

Portion of VDH shellfish condemnation 032-109A, 11/15/2006

Bush Park Creek was included on the 1998 303(d) list as impaired of the Shellfish Consumption Use due to VDH condemnation 109, 4/27/1989. The TMDL for this area was completed during the 2008 cycle and approved by EPA on 6/7/2006.

The condemnation expanded during the 2008 cycle and the expanded area is included under fact sheet E26E-41-SF; the TMDL is due in 2020.

Bush Park Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:			
	0.102		

Sources:

Non-Point Source



# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E26E-11-SF**      **Mill Creek**

Location: As described in VDH Notice and Description of Shellfish Condemnation 103, 12/10/1991

City / County: Middlesex Co.

Use(s): Shellfishing

Cause(s) /  
VA Category: Fecal Coliform / 4A

Portion of VDH shellfish condemnation 031-102C, 1/31/2006

A portion of Mills Creek was impaired in the 1998 cycle due to VDH condemnation 103, 12/10/1991. The TMDL for this segment was completed during the 2008 cycle and was approved by EPA on 8/2/2006. The segment is considered Category 4A. However, the condemnation expanded during the 2008 cycle; the TMDL for the expanded portion will be due in 2020 (see fact sheet E26E-40-SF).

Mill Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:			
	0.122		

Sources:

Non-Point Source

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E26E-12-SF**                      **Sturgeon Creek**

Location: As described in VDH Notice and Description of Shellfish Condemnation 104, 11/28/1994

City / County: Middlesex Co.

Use(s): Shellfishing

Cause(s) /  
VA Category: Fecal Coliform / 4A

Portion of VDH condemnation 032-104B, 1/21/2005

A portion of Sturgeon Creek was included on the 1998 303(d) list due to VDH shellfish condemnation 104, 11/28/1994, The TMDL was completed and was approved by EPA on 6/7/2006. However, the condemnation was expanded during the 2008 cycle (condemnation 032-104B, 1/21/2005). The original segment is considered Category 4A; the TMDL for the expanded portion is due in 2020 and is addressed on fact sheet E26E-43-SF.

Sturgeon Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:			
	0.083		

Sources:

Non-Point Source

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E26E-13-SF** Locklies Creek

Location: As described in VDH Notice and Description of Shellfish Condemnation 031-102B, 1/31/2006

City / County: Middlesex Co.

Use(s): Shellfishing

Cause(s) /  
VA Category: Fecal Coliform / 4A

VDH shellfish condemnation 031-102B, 1/31/2006

The Locklies Creek Shellfish TMDL was completed during the 2008 cycle and was approved by EPA on 8/2/2006. The segment is considered a Category 4A water.

Locklies Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:			
			0.101

Sources:

Non-Point Source

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E26E-14-SF** Hills Creek

Location: As described in VDH Notice and Description of Shellfish Condemnation 021-058A, 10/19/2005

City / County: Lancaster Co.

Use(s): Shellfishing

Cause(s) /  
VA Category: Fecal Coliform / 5B

VDH shellfish condemnation 021-058A, 10/19/2005

Hills Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:			
	0.061		

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E26E-15-SF**      **Bells Creek**

Location: As described in VDH Notice and Description of Shellfish Condemnation 058B, 4/28/1997

City / County: Lancaster Co.

Use(s): Shellfishing

Cause(s) /  
VA Category: Fecal Coliform / 5B

Portion of VDH shellfish condemnation 021-058B, 10/19/2005

Bells Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Shellfishing</b>			
Fecal Coliform - Total Impaired Size by Water Type:			<b>0.055</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E26E-16-SF** Eastern Branch Corrotoman River

Location: As described in VDH Notice and Description of Shellfish Condemnation 058C, 4/28/1997

City / County: Lancaster Co.

Use(s): Shellfishing

Cause(s) /  
VA Category: Fecal Coliform / 5B

Portion of VDH shellfish condemnation 021-058B, 10/19/2005

Eastern Branch Corrotoman River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:		0.622	

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

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## Rappahannock River Basin

Cause Group Code **E26E-17-BAC**

**Eastern Branch Carter Creek**

Location: As described in VDH Notice and Description of Shellfish Condemnation 041C, 11/1/1996

City / County: Lancaster Co.

Use(s): Recreation

Cause(s) /

VA Category: Fecal Coliform / 5A

Portion of VDH shellfish condemnation 020-041A, 10/13/2006

In the 2004 cycle, the segment was also listed as impaired of the Recreation Use goal based on a fecal coliform violation rate of 5/38 at 3-CEB001.92, located at Route 200. Although the violation rate in the 2006 cycle dropped to 0/15, the monitoring ceased in 2002, therefore the previous impairment was carried over. The TMDL is due in 2016. During the 2008 cycle, the impairment was adjusted to be coincident with VDH condemnation 041C, 11/1/1996. The Shellfish TMDL for Eastern Branch Carters Creek was approved by EPA on 9/20/2007; however, the TMDL did not specifically include the Recreation Use, therefore the segment is still considered Category 5A for the Recreation Use.

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Eastern Branch Carter Creek

**Recreation**

Estuary  
(Sq. Miles)

Reservoir  
(Acres)

River  
(Miles)

Fecal Coliform - Total Impaired Size by Water Type:

**0.084**

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Sources:

Non-Point Source

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E26E-17-SF** Eastern Branch Carter Creek

Location: As described in VDH Notice and Description of Shellfish Condemnation 041C, 11/1/1996

City / County: Lancaster Co.

Use(s): Shellfishing

Cause(s) /  
VA Category: Fecal Coliform / 4A

Portion of VDH shellfish condemnation 020-041A, 10/13/2006

A portion of Eastern Branch Carters Creek was assessed as impaired of the Shellfish Use during the 1998 303(d) cycle due to VDH condemnation 41C, 11/1/1996. Although the segment has expanded several times, including during the 2008 cycle (020-041B, 10/13/2006), the TMDL was completed only for the original segment and was approved by EPA on 9/20/2007. This original segment will be considered Category 4A; the TMDL for the downstream portion will be due in 2014 since it first expanded during the 2002 cycle (fact sheet E26E-46-SF).

Eastern Branch Carter Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:			
	0.084		

Sources:

Non-Point Source



# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E26E-19-SF**      **Carter Creek**

Location: As described in VDH Notice and Description of Shellfish Condemnation 041B, 11/1/1996

City / County: Lancaster Co.

Use(s): Shellfishing

Cause(s) /  
VA Category: Fecal Coliform / 4A

Portion of VDH condemnation 020-041B, 10/13/2006

A portion of Carter Creek was assessed as impaired of the Shellfish Use during the 1998 303(d) cycle due to VDH condemnation 41B, 11/1/1996. Although the segment was expanded during the 2008 cycle (020-041B, 10/13/2006), the TMDL was completed only for the original cycle and was approved by EPA on 9/20/2007. This original segment will be considered Category 4A.

Carter Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:			
			0.058

Sources:

Non-Point Source

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E26E-20-BAC** Broad Creek

Location: The tidal Broad Creek embayment.

City / County: Middlesex Co.

Use(s): Recreation

Cause(s) /  
VA Category: Enterococcus / 5A

Broad Creek was initially considered fully supporting but threatened of the Recreation Use in 1998 due to BPJ (6 dischargers into embayment), but there were acceptable fecal coliform violation rates in both the 2002 and 2004 cycles, so it was dropped in 2004.

In the 2006 cycle, the fecal coliform violation rate remained acceptable (0/23), but the enterococci violation rate failed (2/9), therefore the segment was considered impaired of the Recreation Use. The impairment continued in the 2008 cycle due to an Enterococci violation rate of 3/17. The TMDL is due in 2018.

Broad Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Enterococcus - Total Impaired Size by Water Type:			
	0.161		

Sources:

Non-Point Source

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E26E-21-SF** Broad Creek

Location: As described in VDH Notice and Description of Shellfish Condemnation 033-038A, 12/30/2004

City / County: Middlesex Co.

Use(s): Shellfishing

Cause(s) /  
VA Category: Fecal Coliform / 4A

VDH shellfish condemnation 033-038A, 12/30/2004

The bacteria TMDL addressing the shellfish impairment was completed during the 2008 cycle and was approved by EPA on 6/7/2006. The segment will be considered Category 4A for the Shellfish Use.

Broad Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:			
			0.025

Sources:

Non-Point Source

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E26E-24-SF**      **Whiting Creek**

Location: As described in VDH Notice and Description of Shellfish Condemnation 030-051C, 10/3/2005

City / County: Middlesex Co.

Use(s): Shellfishing

Cause(s) /  
VA Category: Fecal Coliform / 4A

VDH shellfish condemnation 030-051C, 10/3/2005

The Shellfish TMDL was completed during the 2006 cycle and approved by EPA on 11/15/2005. The segment should be considered Category 4A for Shellfish, although the EPA TMDL ID was not available at the time of the 2006 assessment. The ID became available during the 2008 cycle and the segment was migrated to Category 4A.

Whiting Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Shellfishing</b>			
Fecal Coliform - Total Impaired Size by Water Type:	<b>0.193</b>		

Sources:

Non-Point Source

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E26E-26-BAC**      **Little Branch**

Location: Little Branch from its tidal limit to its mouth at the Western Branch Corrotoman River

City / County: Lancaster Co.

Use(s): Recreation

Cause(s) /  
VA Category: Enterococcus / 5A

Little Branch was assessed as not supporting of the Recreation Use during the 2006 cycle due to a enterococci violation rate of 3/9 at 3-LIT000.85, which is located at a private dock off Route 620. The segment remained impaired during the 2008 cycle; the violation rate was 3/11.

Little Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Enterococcus - Total Impaired Size by Water Type:			
	<b>0.114</b>		

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

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## Rappahannock River Basin

Cause Group Code **E26E-27-BAC**

**Belwood Swamp**

Location: Tidal Belwood Swamp

City / County: Lancaster Co.

Use(s): Recreation

Cause(s) /

VA Category: Fecal Coliform / 5A

The segment was initially assessed in 1998 as fully supporting but threatened of the Recreation Use based on violations of the fecal coliform standard at monitoring station 3-BLD000.58, located at the Route 3 bridge. During the year 2002 cycle, the segment was downgraded to impaired. During the 2004 cycle, the segment continued to be impaired (see 2004 fact sheet VAP-E26R-01).

However, in the 2006 cycle, it was determined that the station is tidally influenced and had been mistakenly considered riverine. The station remained impaired for fecal coliform. The fact sheet and AU were renamed.

The TMDL is due in 2014. There has been no Enterococci monitoring at this site, therefore the impairment is carried over.

---

Belwood Swamp

**Recreation**

Estuary  
(Sq. Miles)

Reservoir  
(Acres)

River  
(Miles)

Fecal Coliform - Total Impaired Size by Water Type:

**0.009**

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Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E26E-30-SF**                      **Carter Cove**

Location: As described in VDH Notice and Description of Shellfish Condemnation 041A, 11/1/1996

City / County: Lancaster Co.

Use(s): Shellfishing

Cause(s) /  
VA Category: Fecal Coliform / 4A

Portion of VDH condemnation 020-041B, 10/13/2006

A portion of Carter Cove was assessed as impaired of the Shellfish Use during the 1998 303(d) cycle due to VDH condemnation 41A, 11/1/1996. Although the segment was expanded during the 2008 cycle (020-041B, 10/13/2006), the TMDL was completed only for the original cycle and was approved by EPA on 9/20/2007. This original segment will be considered Category 4A.

Carter Cove	Estuary	Reservoir	River
Shellfishing	(Sq. Miles)	(Acres)	(Miles)
Fecal Coliform - Total Impaired Size by Water Type:			
0.056			

Sources:

Non-Point Source

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E26E-31-SF**      **Myer Creek, UT**

Location: As described in VDH Notice and Description of Shellfish Condemnation 021-198A, 10/19/2006

City / County: Lancaster Co.

Use(s): Shellfishing

Cause(s) /  
VA Category: Fecal Coliform / 5B

VDH shellfish condemnation 021-198A, 10/19/2006

Segment expanded in the 2008 cycle.

Myer Creek, UT	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Shellfishing</b>			
Fecal Coliform - Total Impaired Size by Water Type:			
	<b>0.052</b>		

Sources:

Source Unknown



# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E26E-32-SF**      **Millenbeck Prong**

Location: As described in VDH Notice and Description of Shellfish Condemnation 187B, 4/28/1997

City / County: Lancaster Co.

Use(s): Shellfishing

Cause(s) /  
VA Category: Fecal Coliform / 5B

Portion of VDH shellfish condemnation 021-187B, 10/19/2005

Millenbeck Prong	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Shellfishing</b>			
Fecal Coliform - Total Impaired Size by Water Type:			<b>0.041</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E26E-33-SF**      **Whitehouse Creek**

Location: As described in VDH Notice and Description of Shellfish Condemnation 187D, 3/27/2002

City / County: Lancaster Co.

Use(s): Shellfishing

Cause(s) /  
VA Category: Fecal Coliform / 5B

Portion of VDH shellfish condemnation 021-187B, 10/19/2005

Whitehouse Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Shellfishing</b>			
Fecal Coliform - Total Impaired Size by Water Type:		<b>0.050</b>	

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E26E-35-SF**      **Davis Creek**

Location: As described in VDH Notice and Description of Shellfish Condemnation 132C, 10/19/2005

City / County: Lancaster Co.

Use(s): Shellfishing

Cause(s) /  
VA Category: Fecal Coliform / 5B

VDH-DSS Shellfish Condemnation 021-132C, 10/19/2005

Segment expanded in the 2008 cycle.

Davis Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Shellfishing</b>			
Fecal Coliform - Total Impaired Size by Water Type:			
			<b>0.043</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E26E-36-SF**      **Myer Creek**

Location: As described in VDH Notice and Description of Shellfish Condemnation 021-198C, 10/19/2006

City / County: Lancaster Co.

Use(s): Shellfishing

Cause(s) /  
VA Category: Fecal Coliform / 5B

VDH Shellfish Condemnation 021-198C, 10/19/2006

Myer Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Shellfishing</b>			
Fecal Coliform - Total Impaired Size by Water Type:		<b>0.050</b>	

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E26E-37-SF**      **Meachim Creek**

Location: Described in VDH Notice and Description of Shellfish Condemnation 030-179B, 8/16/2006

City / County: Middlesex Co.

Use(s): Shellfishing

Cause(s) /  
VA Category: Fecal Coliform / 5B

VDH Shellfish Condemnation 030-179B, 8/16/2006

This tributary of Meachim Creek was previously considered seasonally condemned, therefore it was fully supporting with observed effects. However during the 2008 cycle, the segment was downgraded to condemned. The TMDL is due in 2020.

Meachim Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Shellfishing</b>			
Fecal Coliform - Total Impaired Size by Water Type:			
	<b>0.034</b>		

Sources:

Non-Point Source

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E26E-38-SF**      **Meachim Creek**

Location: Portion of VDH Notice and Description of Shellfish Condemnation 030-179A, 8/16/2006 not included in the 12/9/1996 condemnation

City / County: Middlesex Co.

Use(s): Shellfishing

Cause(s) /  
VA Category: Fecal Coliform / 5B

Portion of VDH-DSS Condemnation 030-179A, 8/16/2006

The upstream portions of Meachim Creek was impaired in the 1998 cycle due to VDH Condemnation 179A and 179B, 12/9/1996. The bacteria TMDL for these segments was completed during the 2006 cycle. However, during the 2008 cycle, the condemnations merged and expanded downstream (VDH condemnation 030-179A, 8/16/2006). The TMDL for the downstream expansion will be due in 2020.

Meachim Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:			
	0.068		

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E26E-39-SF**      **Roane Cove of Locklies Creek**

Location: Described in VDH Notice and Description of Shellfish Condemnation 031-102A, 1/31/2006

City / County: Middlesex Co.

Use(s): Shellfishing

Cause(s) /  
VA Category: Fecal Coliform / 5B

VDH-DSS Condemnation 031-102A, 1/31/2006

Roane Cove of Locklies Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	0.034		

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E26E-40-SF**      **Mill Creek**

Location: Portion of VDH Notice and Description of Shellfish Condemnation 031-102C, 1/31/2006 not included in condemnation 103, 12/10/1991

City / County: Middlesex Co.

Use(s): Shellfishing

Cause(s) /  
VA Category: Fecal Coliform / 5B

Portion of VDH shellfish condemnation 031-102C, 1/31/2006

A portion of Mills Creek was impaired in the 1998 cycle due to VDH condemnation 103, 12/10/1991. The TMDL for this segment was completed during the 2008 cycle and was approved by EPA on 8/2/2006. The segment is considered Category 4A. However, the condemnation expanded during the 2008 cycle; the TMDL for this expanded portion will be due in 2020.

Mill Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:			
			0.075

Sources:

Non-Point Source



# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E26E-41-SF** Woods Creek, Rappahannock River

Location: Portion of VDH Notice and Description of Shellfish Condemnation 032-109A, 11/15/2006 not included in condemnation 109, 4/27/1989

City / County: Lancaster Co. Middlesex Co.

Use(s): Shellfishing

Cause(s) /  
VA Category: Fecal Coliform / 5B

Portion of VDH shellfish condemnation 032-109A, 11/15/2006

Bush Park Creek was included on the 1998 303(d) list as impaired of the Shellfish Consumption Use due to VDH condemnation 109, 4/27/1989. The TMDL for this area was completed during the 2008 cycle and approved by EPA on 6/7/2006. However, during the 2008 cycle, the condemnation expanded into the Rappahannock River and included Woods Creek. The TMDL for Woods Creek and the Rappahannock River is due in 2020.

Woods Creek, Rappahannock River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	0.049		

Sources:

Non-Point Source

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E26E-42-SF**      **Hunting Creek**

Location: Described in VDH Notice and Description of Shellfish Condemnation 032-104A, 1/21/2005

City / County: Lancaster Co.      Middlesex Co.

Use(s): Shellfishing

Cause(s) /  
VA Category: Fecal Coliform / 5B

VDH-DSS Condemnation 032-104A, 1/21/2005

Hunting Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Shellfishing</b>			
Fecal Coliform - Total Impaired Size by Water Type:			
	<b>0.041</b>		

Sources:

Non-Point Source

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E26E-43-SF**                      **Sturgeon Creek**

Location: Portion of VDH condemnation 032-104B, 1/21/2005 not included on condemnation 104, 11/28/1994

City / County: Middlesex Co.

Use(s): Shellfishing

Cause(s) /  
VA Category: Fecal Coliform / 5B

Portion of VDH condemnation 032-104B, 1/21/2005

A portion of Sturgeon Creek was included on the 1998 303(d) list due to VDH shellfish condemnation 104, 11/28/1994, The TMDL was completed and was approved by EPA on 6/7/2006. However, the condemnation was expanded during the 2008 cycle (condemnation 032-104B, 1/21/2005). The original segment is considered Category 4A; the TMDL for this expanded portion is due in 2020.

Sturgeon Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:			
	0.174		

Sources:

Non-Point Source

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E26E-44-SF**      **Yopps Cove of Carter Creek**

Location: Described in VDH Notice and Description of Shellfish Condemnation 020-041C, 10/13/2006

City / County: Lancaster Co.

Use(s): Shellfishing

Cause(s) /  
VA Category: Fecal Coliform / 5B

VDH-DSS Condemnation 020-041C, 10/13/2006

Yopps Cove of Carter Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	0.021		

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E26E-45-SF**      **Carter Creek**

Location: Portion of VDH condemnation 020-041B, 10/13/2006 not included on condemnation 41, 11/1/1996

City / County: Lancaster Co.

Use(s): Shellfishing

Cause(s) /  
VA Category: Fecal Coliform / 5B

Portion of VDH condemnation 020-041B, 10/13/2006

Two portions of Carters Cove and Carters Creek were assessed as impaired of the Shellfish Use during the 1998 303(d) cycle due to VDH condemnations 41A & 41B, 11/1/1996. Although the segments expanded and merged during the 2008 cycle (020-041B, 10/13/2006), the TMDL was completed only for the original segments and was approved by EPA on 9/20/2007. The TMDL for this downstream expanded segment will be due in 2020.

Carter Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:			
			0.096

Sources:

Non-Point Source

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E26E-46-SF** Eastern Branch Carter Creek

Location: Portion of VDH condemnation 020-041A, 10/13/2006 not included on condemnation 41, 11/1/1996

City / County: Lancaster Co.

Use(s): Shellfishing

Cause(s) /  
VA Category: Fecal Coliform / 5B

Portion of VDH shellfish condemnation 020-041A, 10/13/2006

A portion of Eastern Branch Carters Creek was assessed as impaired of the Shellfish Use during the 1998 303(d) cycle due to VDH condemnation 41C, 11/1/1996. Although the segment has expanded several times, including during the 2008 cycle (020-041B, 10/13/2006), the TMDL was completed only for the original segment and was approved by EPA on 9/20/2007. The original segment will be considered Category 4A; the TMDL for this downstream portion will be due in 2014 since it first expanded during the 2002 cycle.

Eastern Branch Carter Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:			
	0.258		

Sources:

Non-Point Source

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E26E-47-EBEN**      Corrotoman River

Location: The mainstem Corrotoman River within segment CRRMH.

City / County: Lancaster Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: Estuarine Bioassessments / 5A

The mainstem Corrotoman River within the mesohaline CRRMH segment is assessed as not supporting of the Aquatic Life Use due to benthic alteration at Coastal 2000 weight-of-evidence station 3-CRR000.58. Coastal 2000 station 3-CRR001.08 had acceptable water quality (category 2A.)

Corrotoman River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Estuarine Bioassessments - Total Impaired Size by Water Type:			<b>3.767</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E26E-48-SF** Taylor Creek

Location: Described in VDH Notice and Description of Shellfish Condemnation 021-198E, 10/19/2006

City / County: Lancaster Co.

Use(s): Shellfishing

Cause(s) /  
VA Category: Fecal Coliform / 5B

VDH Shellfish Condemnation 021-198E, 10/19/2006

Taylor Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:			0.024

Sources:

Source Unknown



# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E26E-49-SF** Moran Creek

Location: Described in VDH Notice and Description of Shellfish Condemnation 021-198D, 10/19/2006

City / County: Lancaster Co.

Use(s): Shellfishing

Cause(s) /  
VA Category: Fecal Coliform / 5B

VDH Shellfish Condemnation 021-198D, 10/19/2006

Moran Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:		0.095	

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E26E-50-SF**      Whiting Creek

Location: Portion of VDH condemnation 021-187B, 10/19/2005 not previously impaired

City / County: Lancaster Co.

Use(s): Shellfishing

Cause(s) /  
VA Category: Fecal Coliform / 5B

Portion of VDH Shellfish Condemnation 021-187B, 10/19/2005  
  
(Condemnation expanded in the 2008 cycle - this segment covers the expansion.)

Whiting Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:			
			0.178

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E26E-51-SF** Eastern Branch Corrotoman River

Location: Portion of VDH condemnation 021-058B, 10/19/2005 not previously impaired

City / County: Lancaster Co.

Use(s): Shellfishing

Cause(s) /  
VA Category: Fecal Coliform / 5B

Portion of VDH Shellfish Condemnation 021-058B, 10/19/2005

(Condemnation expanded in the 2008 cycle - this segment covers the expansion.)

Eastern Branch Corrotoman River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:			
			0.232

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E26E-52-EBEN** Eastern Branch Corrotoman River

Location: The Eastern Branch Corrotoman River from the downstream boundary of 021-058B, 10/19/2005 to mouth at the Corrotoman River

City / County: Lancaster Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Estuarine Bioassessments / 5A

During the 2008 cycle, the lower portion of the Eastern Branch Corrotoman River was assessed as impaired of the Aquatic Life Use due to an altered benthic community at Coastal 2000 weight-of-evidence station 3-CTM000.63.

Eastern Branch Corrotoman River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Estuarine Bioassessments - Total Impaired Size by Water Type:	<b>0.538</b>		

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E26E-53-SF**      **John Creek**

Location: Described in VDH Notice and Description of Shellfish Condemnation 021-132E, 10/19/2005

City / County: Lancaster Co.

Use(s): Shellfishing

Cause(s) /  
VA Category: Fecal Coliform / 5B

VDH Shellfish Condemnation 021-132E, 10/19/2005

John Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Shellfishing</b>			
Fecal Coliform - Total Impaired Size by Water Type:		<b>0.036</b>	

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E26E-54-SF**      **Lowrey Creek**

Location: Described in VDH Notice and Description of Shellfish Condemnation 021-132D, 10/19/2005

City / County: Lancaster Co.

Use(s): Shellfishing

Cause(s) /  
VA Category: Fecal Coliform / 5B

VDH Shellfish Condemnation 021-132D, 10/19/2005

Lowrey Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Shellfishing</b>			
Fecal Coliform - Total Impaired Size by Water Type:			<b>0.028</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E26R-02-DO**      **UT to Western Branch Corrotoman River**

Location: An unnamed tributary (XEY) to Western Branch Corrotoman River from its headwaters to its mouth.

City / County: Lancaster Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Oxygen, Dissolved / 5C

During the 2008 cycle, unnamed tributary XEY was considered impaired of the Aquatic Life Use based on a dissolved oxygen violation rate of 5/21 at the Route 604 bridge (3-XEY001.00).

UT to Western Branch Corrotoman River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Oxygen, Dissolved - Total Impaired Size by Water Type:			<b>3.10</b>

Sources:

- Natural Conditions - Water
- Quality Standards Use
- Attainability Analyses
- Needed

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E26R-02-PH**      **UT to Western Branch Corrotoman River**

Location: An unnamed tributary (XEY) to Western Branch Corrotoman River from its headwaters to its mouth.

City / County: Lancaster Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: pH / 5C

During the 2006 cycle, unnamed tributary XEY was considered impaired of the Aquatic Life Use based on pH violations at the Route 604 bridge (3-XEY001.00). During the 2008 cycle, the violation rate was 5/21.

UT to Western Branch Corrotoman River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			3.10

### Sources:

- Natural Conditions - Water
- Quality Standards Use
- Attainability Analyses
- Needed



# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E26R-03-DO**      **Norris Prong**

Location: Norris Prong from its headwaters to its tidal limit.

City / County: Lancaster Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: Oxygen, Dissolved / 5C

During the 2008 cycle, Norris Prong was considered impaired of the Aquatic Life Use based on a dissolved oxygen violation rate of 4/10 at the Route 3 bridge (3-NOR001.00).

Norris Prong	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Oxygen, Dissolved - Total Impaired Size by Water Type:			<b>2.40</b>

### Sources:

- Natural Conditions - Water
- Quality Standards Use
- Attainability Analyses
- Needed

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E26R-04-BAC**      **Browns Creek**

Location: Browns Creek from its headwaters to its tidal limit.

City / County: Lancaster Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

During the 2008 cycle, Browns Creek was considered impaired of the Recreation Use based on an E. coli violation rate of 2/10 at the Route 614 bridge (3-BON001.65).

Browns Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			2.53

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **E26R-04-DO**      **Browns Creek**

Location: Browns Creek from its headwaters to its tidal limit.

City / County: Lancaster Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: Oxygen, Dissolved / 5C

During the 2008 cycle, Browns Creek was considered impaired of the Aquatic Life Use based on a dissolved oxygen violation rate of 2/10 at the Route 614 bridge (3-BON001.65).

Browns Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Oxygen, Dissolved - Total Impaired Size by Water Type:			<b>2.53</b>

Sources:

- Natural Conditions - Water
- Quality Standards Use
- Attainability Analyses
- Needed

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **RPPMH-DO-BAY**      **Rappahannock River**

Location: The mesohaline Rappahannock River and tidal tributaries.

City / County: Essex Co.                      Lancaster Co.                      Middlesex Co.                      Richmond Co.                      Westmoreland Co.

Use(s): Aquatic Life                      Deep-Channel Seasonal                      Deep-Water Aquatic Life                      Open-Water Aquatic Life  
Refuge

Cause(s) /

VA Category: Oxygen, Dissolved / 5A

The mainstem of the Rappahannock River from Myrtle Swamp to its mouth was originally listed in 1998 by DEQ due to dissolved oxygen violations and nutrient overenrichment. The EPA extended the segment upstream to the confluence with Totuskey Creek. In the 2004 cycle dissolved oxygen violations were noted in deepwater and deep channel stations downstream of the confluence with Lancaster Creek (Morattico), which is further downstream.

The new Chesapeake Bay Water Quality Standards were implemented during the 2006 cycle. The mesohaline portion of the Rappahannock failed both the open water summer dissolved oxygen criteria during the 2006 cycle. Also, applicable areas failed the deep water applicable dissolved oxygen criteria in 2006.

Rappahannock River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Oxygen, Dissolved - Total Impaired Size by Water Type:	<b>123.530</b>		

Rappahannock River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Deep-Channel Seasonal Refuge</b>			
Oxygen, Dissolved - Total Impaired Size by Water Type:	<b>65.882</b>		

Rappahannock River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Deep-Water Aquatic Life</b>			
Oxygen, Dissolved - Total Impaired Size by Water Type:	<b>82.524</b>		

Rappahannock River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Open-Water Aquatic Life</b>			
Oxygen, Dissolved - Total Impaired Size by Water Type:	<b>123.530</b>		

Sources:

Agriculture	Atmospheric Deposition - Nitrogen	Industrial Point Source Discharge	Internal Nutrient Recycling
Loss of Riparian Habitat	Municipal Point Source Discharges	Sources Outside State Jurisdiction or Borders	Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **RPPMH-SAV-BAY** **Rappahannock River**

Location: The mesohaline Rappahannock River and tidal tributaries.

City / County: Essex Co. Lancaster Co. Middlesex Co. Richmond Co. Westmoreland Co.

Use(s): Aquatic Life Shallow-Water Submerged  
Aquatic Vegetation

Cause(s) /

VA Category: Aquatic Plants (Macrophytes) / 5A

The mainstem of the Rappahannock River from Myrtle Swamp to its mouth was originally listed in 1998 by DEQ due to dissolved oxygen violations and nutrient overenrichment. The EPA extended the segment upstream to the confluence with Totuskey Creek. In the 2004 cycle dissolved oxygen violations were noted in deepwater and deep channel stations downstream of the confluence with Lancaster Creek (Morattico), which is further downstream.

The new Chesapeake Bay Water Quality Standards were implemented during the 2006 cycle. The mesohaline portion of the Rappahannock failed the SAV acreage standards during the 2006 cycle.

Rappahannock River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Aquatic Plants (Macrophytes) - Total Impaired Size by Water Type:	<b>123.530</b>		

Rappahannock River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Shallow-Water Submerged Aquatic Vegetation</b>			
Aquatic Plants (Macrophytes) - Total Impaired Size by Water Type:	<b>123.530</b>		

Sources:

Agriculture	Atmospheric Deposition - Nitrogen	Clean Sediments	Industrial Point Source Discharge
Internal Nutrient Recycling	Loss of Riparian Habitat	Municipal Point Source Discharges	Sediment Resuspension (Clean Sediment)
Sources Outside State Jurisdiction or Borders	Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)		

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## Rappahannock River Basin

Cause Group Code **RPPTF-DO-BAY**      **Rappahannock River, Mill Creek**

Location: Includes the tidal fresh waters of the Rappahannock River and the tidal portions of tributaries; begins at the fall line at Route 1 and continues downstream until immediately upstream of Devils Elbow, at rivermile 70.52.

City / County: Caroline Co.      Essex Co.      Fredericksburg City      King George Co.      Spotsylvania Co.  
Stafford Co.      Westmoreland Co.

Use(s): Aquatic Life      Open-Water Aquatic Life

Cause(s) /

VA Category: Oxygen, Dissolved / 5A

An open water assessment of dissolved oxygen values during the summer season showed that the RPPTF was not supporting. The RPPTF was 0.999 percent above CFD.

Rappahannock River, Mill Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Oxygen, Dissolved - Total Impaired Size by Water Type:	<b>14.040</b>		
Rappahannock River, Mill Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Open-Water Aquatic Life</b>			
Oxygen, Dissolved - Total Impaired Size by Water Type:	<b>14.040</b>		

### Sources:

Agriculture	Atmospheric Deposition - Nitrogen	Industrial Point Source Discharge	Internal Nutrient Recycling
Loss of Riparian Habitat	Municipal Point Source Discharges	Sources Outside State Jurisdiction or Borders	Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)